/338 cont./

241 Sorghum (triku) (Sorghum saccharíferum) (1):

1. Sorghum is cultivated only on a very small scale. It is a delicacy that the Chiriguano reserve for children, who suck its stalk.

[262]

/339/ Sugar cane:
Melons:
Watermelons (sandías):
Prickly pear (saini) (Opuntia spec.):
Fig trees:
Orange trees (in the missions).

[177] The Chiriguano cultivate only on a very small scale the plants which, like sorghum, sugar cane, fig trees, and orange trees, have been introduced by the Europeans. Of these only melons enjoy general favor.

248 They always devote some parts of their fields to the cultivation of plants of value only for their arts and manufactures. These are: cotton plants (mandiyú), cucurbitaceous plants (iá) which grow on the ground next to their squash and furnish the containers they need, roucou (urukú), which scarcely exists except in the northern part of their habitat, and finally a species of reed (Arundo donax) with which they make the shafts of their arrows.

249 They also plant tobacco (pétĭ), but I have never seen any in their fields. According to Nordenskiöld (10, p. 25), its cultivation is insignificant and rare. The Chiriguano are not great smokers, and the numerous packs of cigarettes I took along for them found only a few devotees. Among the Toba, Matako /Mataco/, or Choroti /Choroti/ my stocks would have been exhausted in the wink of an eye, for these Indians love tobacco more than anything in the world.

[276] [123]

276 The use of tobacco among the ancient Chiriguano, as among 756 their ancestors in Paraguay or Brazil, was reserved for the 824 medicine men for their magical operations. Their use made [178] of it a plant endowed with "mystical" virtues, and its

/348 cont./

289 439 [486] [435] half-breed villages. For the meager profits which this trade brings them they undertake long trips and even go as far as Sucre, where they are paid two to three pesos for each feather duster.

294 178 231 433 Hunting lost its importance from the day when the Chiriguano began to have cattle. Already about 20 years ago, those who /Plate XII appears here/ /348/ had several sheep, goats, cows, or even chickens did not take the trouble to accompany their comrades into the bush in search of game. What is the use of tiring oneself out running after peccaries for long days and risking getting oneself disemboweled or coming back empty-handed if just by staying home one can treat one's guests with some roast of meat or chicken broth?

231 435 [464] [465] The price of cattle has gone down a good deal these last years, and the Indians no longer need to go to the sugar mills of Argentina in order to come back with a cow or two in recompense for four to five months of hard work. Goats, sheep, and pigs are valued at two to four pesos apiece and it is often even a question of "prices for foreigners." A cow currently costs from 25 to 30 pesos, and an economical Indian has the means to acquire several during his life. Little by little, in each village modest herds have been formed, which the Indians care for like treasures. They husband them carefully, like all primitive peoples who raise cattle. They almost never kill their cow, and they sacrifice only rarely a goat or a sheep to their gluttony (1). In showing themselves to be so economical

471 23 [435]

[262] [198] 1. In former times they used to feel an unconquerable repugnance toward pork, which is disappearing nowadays (Nino, p. 252).

they are not obeying any superstition but simply are afraid to 556 diminish their capital. The wealth of an Indian is gauged by the number of his cows; and, in their Spanish jargon, "vacudo" /vaca, "cow"/ is a synonym for rich (2). Some of them have a

2. An Indian of Nawirenda had as many as 40 head of cattle.

[Text continues on p. 93]

/349 cont./

556 [435] [439] tendency to estimate the value of objects in cows. For example, a loom with a nearly finished poncho was offered to me "for a cow," and the owner of the loom could not understand that it was difficult for me to convert the exchange into money.

• 262 [251] Charqui, or meat dried in the sun, most often replaces fresh meat in the menus of our Indians. It is not a question of preference, but of necessity. Charqui is cheap and is bought in any estancia.

Fishing

221 226 When I went through the Chiriguano villages of the upper Pilcomayo and the Parapití, the rivers were in flood, the corn was ripening in the fields, and no Indian wanted to let the parrots eat his corn in order to go to catch fish at the risk of getting himself carried off by the current. If I had come back to these same villages in July or August, the scene would have been completely different. The rivers would have been only thin trickles of water, and in every direction I should have perceived men /350/ and women busy fishing. The fishing season would have been at its height.

[196] The Chiriguano, having come from a country rich in watercourses, have in this respect preserved the traditions of their ancestors of the Paraná or the Paraguay.

226 Some, equipped with large landing nets (Fig. 18), form barriers against the current and advance, gathering the fish as if with a spoon. Then they grab them and attach them to their [229] [482] belts, after /Fig. 18 appears here/ threading them on a cord by means of a wooden needle (Fig. 19). Others lie in wait for a fish in the water and, as it goes by, impale it with an arrow equipped with several points (Fig. 20) or simply with two long, barbed wooden rods. Some, with the help of stone barriers, try to make the fish converge toward the opening of a wicker trap (1). Sometimes a group of individuals turn aside a

1. Compare Lizárraga (Vol. I, p. 280)x "in summer (the Chiriguano) divert a stretch of the river: they leave the fish in the drained

/351/
226 /Figs. 19-22 appear here/ /352/ Chiriguano attach them to the
[227] end of long cords. A spear with one or two points serves to
harpoon the enormous surubí which pass within their reach
[481] (Fig. 21). It goes without saying that the Chiriguano are
262 marvelous swimmers.
439

The Chiriguano like fish (1). If they live far from the

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481

1. The skill of the Chiriguano at fishing had already attracted the attention of the ancient chroniclers. Acosta (Vol. I, p. 236) reports that he had a chance to see them handle the spear, a specimen of which is reproduced here in Figure 21. "Some Chiriguanas plunged under the water and, swimming with admirable speed, followed the fish, and with some fish spears, or harpoons, which they carried in the right hand, swimming only with the left, they struck the fish; and, spearing it thus, they came up, so that they certainly seemed to be more fish than men of the land." /Translated from the Spanish./

Rosen (1, Fig. 215, p. 213) represents a Chiriguano holding one of these two-pointed spears in his hand.

262 Pilcomayo and cannot get any directly, they buy it from the
439 Toba or the Matako, who are good fishermen and in addition have the advantage of living on the very banks of the lower Pilcomayo.

[482] In the dry season one can see near Pilcomayo a continual coming and going of Chiriguano, bent under the weight of their
[484] nets full of ears of corn that they are going to barter for fresh or dried fish. They would not hesitate, it appears, to travel 150 kilometers to feast on it (Nino, p. 251).

C 252 /352 cont./

The fish begins by being opened and cleaned and only then is it boiled or roasted. In this last case it is inserted between the two branches of a switch split for three quarters of its length (Fig. 22). So that the latter does not open completely, the lower part is fastened securely with bands of bark, and so that the fish does not fall out once it is inserted in the interstice, the upper part. Among their ancestors, the Guarani, G [252] such a spit would have been superfluous, because to grill the product of their fishing or hunting they used to construct C [251] buccans. Our Chiriguano also eat fish dried in the sun and [262] enjoy it in this form combined with some corn dish.

/353/

Chapter IV

Cooking

Fire

C 372 177 The modern Chiriguano more and more use matches of Bolivian make, but their poor quality has contributed to maintaining the popularity of the tinderbox. That of the Chiriguano, borrowed recently from the white men, is composed of a flint and a piece of iron with which they make sparks fly, which fall on a little wild cotton (the one which the fruit of the palo borracho (Chorisia insignis) produces). This tow (tata rimbiuna) is kept in a small receptacle made from the end of a cow horn or an armadillo tail. /Figs. 23 and 24 appear here./ It is hermetically sealed by a wooden disk, which a small cord passing inside the capsule and coming out through a hole at the tip of the horn or tail allows to be put back in place with a single motion. This ingenious contrivance is not, however, of Indian invention; I saw it adapted to the tinderboxes of the creoles in the Argentine Republic. Some C Chiriguano make cloth wicks which at first sight would seem [415] to have been produced in one of our factories. The tinderbox [281] with its accessories is carefully kept in small bags of deerskin, wildcat, iguana, etc. (Figs. 23 and 24).

/354 cont./

372 small stick was too short to be handled with ease, he fastened it securely to another stick by means of vegetable fibers (embira) (Fig. 25). This done, he sat down on the ground, pressing the soles of his feet on the small cupped stick, and imparted with the palms of the hands a rotating movement to the other stick. The glowing sawdust which was detached by the effect of the friction fell on dried dung placed near the gadget to serve as tinder, which, at the end of a rather short time, began to catch fire.

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According to the season, the Chiriguano light their fires inside the hut or outside. The hearth is composed of long branches which they lay out like the spokes of a wheel. As the ends burn, they push them closer to the central fire. The job of getting the dead wood falls within the province of the men (Fig. 26).

[462] [313]

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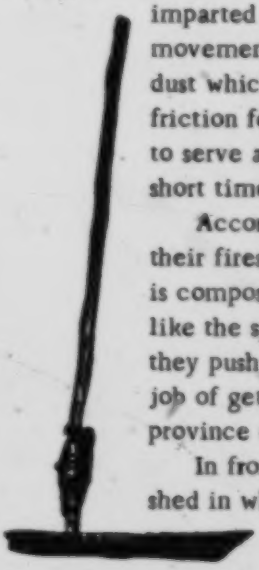
In front of the huts they often erect a little shed in which the women do the cooking. The



[372] ← Fig. 25. Ancient apparatus for making fire, reconstructed by a modern Chiriguano. Prov.: Caruruti. (1/6 nat. size.)

roof of this shelter serves as a shelf for putting provisions and utensils on.

Preparation of Food

• 262 The modern Chiriguano do not seem to observe any food prohibitions, at least in daily life, for the custom of fasting, for women at the time of puberty and for men upon the birth of a child, is not yet lost. In olden days certain animals /355/ were taboo (1). The men of a few villages thus reserved for themselves

[789] [825]

[775]

1. In order not to kill one of their dead relatives transformed into a fox, the Chiriguano

/355 cont./

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Fig. 26 Chiriguano woman lighting a fire. Upper Pilcomayo. (Photo. A. M.)

262
[915]

do not hunt nor eat this animal (Diccionario Chiriguano-Español, etc., p. 3).

[756]

Medicine men cannot under any circumstances eat pimento. If a man refuses to taste this condiment, one can be sure he is a magician (id., p. 184).

[765]

Grilled corn is strictly forbidden for persons in mourning, whose tears would dry up if they ate this dish.

[825] [789] the exclusive right to eat deer meat, which thus instilled in them the agility and suppleness of this animal. Women could eat, without

262 [562] /355 cont./ Women could eat, without harm, parrot, a heavy and stupid bird. In their misogyny the Chiriguano doubtless figured that that would not change their nature in any way. (Campana, p. 92.)

252 Cooking is not a secondary activity; it is an important form /Fig. 26 appears here/ of the material culture and an excellent index for judging the cultural level of a human group. The art of preparing dishes reveals as well as any tool the faculties of invention and taste. In South America one can very well classify the tribes according to the more or less great variety of their dishes and the care they take in preparing them. This hierarchy would certainly correspond to that of the cultural elements.

[171] In the Chaco, Chiriguano cooking stands in contrast by its variety, its /356/ taste, and its cleanness to that of the more primitive tribes like the Toba or the Matako.

Before passing on to the study of the utensils used by the Chiriguano housewives, it is fitting to describe their menus.

When the Chiriguano kill a cow, goat, or sheep, the meat is boiled in water, roasted on a spit, or dried in the sun (charqui). They are especially partial to the head of the animal they kill, and they eat it boiled after skinning it. The pieces of meat are cleaned carefully before being cooked; and the tripe, for example, which is a delicacy, is taken out beforehand.

Corn is prepared in various ways. If the ears are tender and green, they are boiled in water or grilled over the fire or under the ashes.

When the corn is still in this state, the women prepare simbikuai or humitas (in Spanish). They bite with an appetite into the still tender ears, chew the kernels for a long time, and spit them into a calabash. This white mash saturated with saliva is wrapped in corn leaves and put under the ashes.

[415] The Chiriguano give the name of atipĺ to kernels of corn roasted in a special bowl called tapuipe (Plate XIII, 3) or in large potsherds, which tend more and more to replace the primitive utensil appropriate for this use. The atipĺ requires

/357 cont./

252 A rudimentary way of preparing corn, but also little valued, consists of boiling the kernels in water for a long time until they have become soft (atiruru) (3).

• 262 881 765 846 3. Atiruru is a dish whose consumption is intimately associated with the observance of magico-religious prohibitions. It is the only permissible nourishment for girls when they have their first menstrual periods, for people in mourning, and for women for a period of ten days after giving birth (Diccionario Chiriguano-Español, etc., p. 14).

252 262 /358/ The Chiriguano make a broth with corn flour (api) and meat, which is not bad.

They do not use haphazardly the 11 varieties of corn which they cultivate. Each, according to its properties, is intended for the preparation of a definite dish. Yellow corn (avati-hendi-vaé or avati-iyu-vaé) serves for making chicha or corn beer; white corn (avati-ndi) is roasted, as is avati-kanana. The corn called kathintí, or crinkled corn, is generally roasted, as are avati-tíore and avati-saimpini (gray corn), which are intended to be roasted and made into flour.

262 Avati-rai, or small corn, is planted only in times of scarcity when the harvest has been bad. Of small stature, it yields only one ear of reduced size, but has the advantage of growing fast (Nino, pp. 241-242).

A Chiriguano's meal in normal times is not made up exclusively of corn, even if this grain figures in all his menus. The popularity which corn has is also shared by beans, or kumanda. The Chiriguano cultivate 11 varieties of them also.

[252 263] The Chiriguano eat beans either dry or fresh. In the latter case they are cooked in the pod in water or under ashes. Beans boiled in the pod are seasoned with pimento. Then one has the dish called sopiriwa.

/358 cont./

252 In order to shell dry beans, the women make a big pile of them which they put on a hide; then, sitting down beside it, they hammer them with a stick as if with a flail. The seeds are loosened, and to separate them from the pod they take handfuls which they winnow (Fig. 27). They carry out this operation several times until not a single seed is left sticking to the pods. Next they collect them into a pile with a small broom and rid them of all impurities by shaking them in a sieve. The shelled beans are kept in vessels.

At Carurutí every morning I was offered a dish of beans cooked in the following way: a handful of beans, with a little water, was put on the fire in an improvised frying pan formed out of a large potsherd. In an instant the water was evaporating and the beans beginning to smoke; this was the moment to take them off and serve them.

The underground oven, which among other American tribes is used almost exclusively for cooking meat, has been adapted by the Chiriguano to a more humble use: in a hole which they make in the ground and which they have first heated, they bury fresh beans and leave them until they are done (Nino, p. 243).

262 After beans in order of importance come squash or gourds
252 (andai anku, and ginda). The Indians boil them or roast them under ashes. In the first case they season them with pimento
[263] or salt to make gindaka-mikira, or squash fat. The /359/ seeds are also roasted and eaten with corn flour, atipíi, or beans.

The Indians of the Caipipendí valley sometimes, but rarely, ate sweet manioc tubers. They boiled them in water or roasted them under ashes.

Sweet potatoes or camote (in Chiriguano: yeti) are roasted or boiled. They were served to me only two or three times.
/Fig. 27 appears here./

263 The Chiriguano like condiments and season all their vegetables with them; in the bean pot they put pimento, which with them occurs in the form of extremely strong small oval fruits, green and red. I have also seen ground red pimento. In the villages where the Indians use crystallized salt, they break it into small

T 195 264 /360 cont./ their four fingers from the earthen dish or other vessel in which they keep it, even though they throw it from rather far away, nevertheless they put it so accurately into their mouths that they do not drop a single bit. So that some of us Frenchmen, wishing to imitate them, thought we would eat it in that fashion, and not being at all trained for that like them, instead of throwing it in our mouths, we discharged it on our cheeks and floured our whole face; /361/ consequently unless those principally who wore beards would have wanted to be accoutered as players of farces, we were constrained to take it with spoons" (Léry, Vol. I, pp. 143-144).

T 262 252 264 This comparison permitted me to suppose that roasted corn flour has simply replaced the "farinha" of the Brazilians. As we know, the pulp of manioc tubers, after being carefully squeezed in the tipiti, or trough, was roasted on a terra-cotta slab and changed into dry flour, with which the Tupinamba accompanied all their meals. The Chiriguano think the same C 262 way about atĩi: they say that corn flour, in order to be eaten, 264 must have an accompaniment, an intina. To my way of think- 196 ing, atĩi and muĩnti are two substitutes for manioc flour that the Chiriguano invented or adapted after emigrating into a C [171] land where bitter manioc was unknown. Neither the other tribes of the Chaco nor the Quichua eat corn in this form, and, to my knowledge at least, there is no doubt that the Chiriguano introduced these two dishes into the country, without counting a goodly number of the ones which have been enumerated.

C 262 The only fruits that the Chiriguano consume on a large scale are the prickly pear or tuna (Opuntia), which are seen C [245] in all their villages. They also plant some fig and orange [197] trees when they are under mission influence. They are also great lovers of melons, of sandias (watermelons), and when they have eaten one of these which has pleased them particularly, they keep the seed. They love sugar cane with a passion. Sorghum is especially meant for the children, for whom these graminaceae are a veritable sweetmeat. They suck the juice, which is as sweet as that of sugar cane.

/361 cont./

262
252 Among the foods that nature gives them spontaneously can be counted the caraguatá, whose mealy roots, roasted on embers or under ashes, remind one a little of manioc tubers.

The pods of a mimosaceae (?), which remind one of large beans and for this reason are called iwira-kumanda, were pointed out to me as being edible. I have found this information confirmed in an article by Campana (p. 97), who adds that these fruits have a bitter taste which they lose only after several repeated cookings.

To this list must be added the fruits of the algarroba, mistol, tusca, bitter algarroba, ulala, higuerilla, etc. Chañar fruit can also help them to stand famine. Since they are sweet, they can be eaten raw, cooked, or in the form of bread after being pounded in a mortar.

In Father D. Giannechini's Diccionario Chiriguano-Español, etc., one finds enumerated a large number of plants which grow wild and which the Chiriguano eat by necessity or to vary their menus. These are:

/362/ The roots of the kaaratiro, red and stringy outside but white inside. They are edible and even pleasant tasting after being cooked in three waters (p. 18).

The watery tubers, of the size of a small onion, which the Chiriguano call iwía and of which the children are very fond. One belief has it that the spirit inhabiting this plant hides it from those who look for it if they do not observe silence or if they point at it (p. 80).

The fruit of the shrub iwira-rorai (p. 82).

The tubers of a kind of wild yuca which they call, like the cultivated species, mandío or mandiousi. This is a bitter plant, prickly and poisonous. To eat this root they cut it in pieces and cook it in several waters to make it lose its sharpness and its poison (p. 99).

A kind of wild potato known by the name mangara which the Chiriguano dig up and eat in times of scarcity. This tuber is edible only after being boiled in several waters (p. 100).

The herb monki would be equally edible (p. 133).

A certain liana (supúa) whose leaves can be eaten if other food is lacking (p. 193).

/362 cont./

262 [252] The Chiriguano call kumanara a leguminous plant, wild, which resembles the yuca and which can serve as food after being boiled. They resort to it only when pressed by hunger. The word designating this plant has a strange resemblance to [192] the name of the batata in the Quichua dialects of Ecuador and northern Peru (Rivet, 3, pp. 583-590). It is perhaps a question of a Quichua word introduced into the Chiriguano language to designate a plant of which they did not have the equivalent in their original homeland. The case is nevertheless rare, and one can wonder if it is not a simple coincidence.

[222] [091] Neither do the Chiriguano look down on honey, although they do not seek it with the passion of their cousins, the Kainguá. What I tasted among them was contained in thin honeycombs having the consistency of cardboard. It had a pleasant taste.

222 784 [076] Any Indian who goes in search of honey (ei) must not make his intention known to anyone and, if he is asked where he is going, he must answer: "To look for wood." If you do not take these precautions, the protecting spirit of the honey is warned of your plan and hides the honeycombs he guards (Diccionario Chiriguano-Español, etc., p. 86).

222 114 [252] The missionary Corrado (p. 43) assures us that grasshoppers, cicadas, the larvae of bees are that many delicious dishes for the Chiriguano. He adds that these insects are roasted. Nino (p. 247) reproduces the statements of his predecessor and completes the list of strange foods by adding /363/ ants, lizards, leaves of the cucurbitaceae, melted tallow, etc. Personally I [191] have never seen the Chiriguano touch these dishes strange to our palates, but I am all the more inclined to believe these two missionaries that the tastes they indicate are actually those of the Indians in other regions.

262 252 Already in the 16th century the Chiriguano passed as snake lovers, even of poisonous species. They cut off the head and tail, skinned them, and roasted pieces of them on live coals. They used to eat them with pimento. No doubt the Spaniards con- [198] fused snakes with iguanas, which even today the Chiriguano justly like (Lizárraga, Vol. I, p. 260).

/363 cont./

234 To end up, one could still cite among Chiriguano food
• 262 the cheese they make in some villages. Each time they
butcher they take care to keep the abomasus in order to make
[199] milk separate. Chiriguano cheeses are of the same quality as
those of the half-breeds, who for once have taught something
[292] to our Indians. I shall add that I have never seen a Chiriguano
drink milk.

312 The problem of water does not come up for the Chiriguano
133 as for the other Indians of the Chaco. Numerous rivers cross
their territory, and several of them are large enough not to dry
up even in the middle of the dry season. These watercourses
form innumerable quebradas, gorges or valleys, which give
its characteristic aspect to the country inhabited by our Indians.
[361] Sometimes villages are built near springs or small lakes, like
the Ivu mission, which is provided with plenty of water.

312 When I crossed the Caipipendí valley, the river which
occupies the bottom was nearly dry. The Indians had scooped
out small wells about one meter in depth in the sand of its
bed. They had surrounded them with slabs of stone to prevent
any caving in and to preserve the water which accumulated in
them from the heat of the sun. In this same valley, in a village
situated on top of a hill, the Indians had dug a cistern four to
five meters in diameter in which rain water had collected.

291 The Chiriguano have found a way to purify the muddy
312 water they often have to drink. They crush caraguatá leaves
824 between two stones, then steep them in the water, and all its
impurities settle as a result of the action of the juice of this plant.

264 The Chiriguano do not eat at set times. They make a
rather substantial breakfast very early in the morning and again
take some food toward the middle of the day. In the evening
[562] about six o'clock they make a kind of dinner. Since the men
are served first, then the women and children, it follows that
the meals drag out in length. At any moment of the day one
[415] can see someone eating. The food /364/ is presented to each
one in a calabash or terra-cotta bowl which each holds on his
knees. They pick up the pieces with their fingers but imbibe
liquids with a wooden spoon (Figs. 42 and 43). After eating,
they wash their hands. I have seen some rinse out their mouths.

/456 cont./

285 294 A half-finished hat (Fig. 113) which I was able to acquire at Carurutí shows well the process of fabrication. The basket-maker begins by making the crown of the hat, interlacing 36 tigellas and shortly afterward adding other supplementary stalks whose ends are seen protruding. When the hat is finished, all those projecting beyond the fabric are cut off. The rhythm of the crossing elements is twofold.

285 296 Figure 114. Length, 10 centimeters; width, 8 centimeters. Provenance: Carurutí.

This cigarette case faithfully imitates the ones the Chiriguano have seen in the hands of half-breeds or creoles. Nevertheless, its technique is interesting, for it is purely indigenous. The /Plate LXXXI appears here/ /457/ tigellas of karandaí leaves cross in a twofold rhythm.

The Chiriguano are not great smokers and it is rare to find cigarettes among them, so that these cases seem to me to be made for amusement rather than for their practical utility.

Sieves

415 252 There is no Chiriguano housewife who does not have at her disposal at least two sieves. The importance of this kitchen utensil corresponds to the considerable role of corn [262] flour in their food. Of the 12 different dishes that the Chiriguano prepare from this grain, there are six or seven in which it appears in the form of flour. Kãwi itself is made with corn pounded in a mortar and then passed through a sieve. Sieves serve also for cleaning beans and ridding them of the stones and dust accompanying them. Finally, sieves are used for straining kãwi after cooking and for separating the liquid, which is to ferment, from the marc or temiču. They can also be used as simple baskets, and I have seen some holding corn seeds.

/2 cont./

121 elegant or labored, natural or stilted, which can be observed in one book by a single author. But the fact is that I can only write it here, since only the Indians are able to smooth out the difficulties which naturally will arise in the course of these pages.

I am familiar with almost the entire region inhabited by the Chiriguano, with the exception of a few small areas, but this is of little importance, as much because they are not of historical importance as because I have obtained data about them which show them to be like the rest. It would even be easy to make a map of the region, but I am embarrassed to say that I am not competent to do this.

General View

133 The region which the Chiriguano Indians occupy today is composed of many little valleys /cañadas/ which run from north to south; they are separated by mountain ridges which vary in size, height, precipitous slopes, deep gorges, and incalculable depths. Its length is quite considerable, while its breadth is not over 180 kilometers. The mountains rise to 3,000 meters and more above sea level, but at that altitude there is no longer any vestige of forest, while at 1,200 meters the woods are exuberant.

In the midst of the valleys low hills cross in every direction, and there are some which from a distance look like larger hills or on their way to becoming such; others are completely isolated and quite small, but they attract the attention of the traveler because of their conical shape, like the traditional "Tumparepoti", located at the beginning of the pampas of Yvu. There is no hill which does not make room upon its breast for a multitude of trees of every size and description, like a grove, and /3/ another multitude of vines like the bejuco and low-lying plants of the cactus family, which the Indian uses by eating their fruit, whose combined acridness and sweetness would make them please and be preferred by the most aristocratic lady of the city of Paris.

• 262

/17 cont./
245 137 824 [302] [303] [439]
and feet with them, as will be seen; for this last purpose it is prepared beforehand, many pods being boiled in an olla, and pastes of every size are made from the decoction, depending on the value that they wish them to have; it is traded by Chiriguanos and whites.

137 824
The Bixa orellana, or "Urucu," as the Indians call it, is a plant of high value for the Chiriguano; he will travel far to obtain a small amount in the towns or places where it is prepared.

ALGARROBO. -- The place where this extraordinarily large tree abounds is in the pampas; thus in the plain of "Curuyuqui" of Yvu Mission, Isoso, Parapiti, and the Gran Chaco it is found forming forests. It is very bulky and has [342] [415] long branches which on some touch the ground; its trunk is thick and not always erect, the wood is excellent, similar to oak in spite of being dark, and it is much used for making tuns, door and window casings, and even for barrels. In [262] [273] Chiriguano this tree is called /18/ "Ivopei," and the "Ivope" pod is long, compressed, and yellow; when it is ripe, it is sweet and much sought after by livestock and by the Chiriguano; it is their food and drink in times of scarcity as well as other times, and the mead that they make is extremely intoxicating. On the bank of the Pilcomayo even the whites eat this pod; the Toba, Choroti, Mataco, and others hold their orgies when the algarrobo ripens.

ALGARROBO CHICO. -- This is a smaller tree than the previous one, even its fruit is smaller, speckled in color, and sweeter than the true algarrobo, but not as abundant as the [262] first. As the pods are small and the seeds within abundant, it is not highly thought of among the Chiriguano; they only eat it out of necessity or as a tidbit; the wood is not valued very highly because undoubtedly there are others that are better. In Chiriguano it is called "Ivope rai."

ALGARROBO AGRIO. -- This is also small, and it is called [262] "sour" because the flavor of the pods really is sour. In times of scarcity it is also food for the Chiriguano; the pods are small, and the tree has its congenial sites. The Chiriguano Indians call it "Ivopetayi."

/18 cont./

137 824 ALGARROBO NEGRO. -- Among the Indians this is called "Ivopene," and the whites call it tunca; it multiplies and grows very fast. Sometimes 20 or 30 newly sprouted plants can be counted around a single cake of cow dung, which indicates that the cattle eat it in abundance, and where it does not already exist they sow it with their bowels. [262] It grows to a height of some three meters and is very thorny, which makes it difficult to travel through places where it is abundant; when there is no other food it is one of the Chiriguano's resources.

[322] ALGAROBILLA. -- The wood of this plant, which the Chiriguano call "Iguirayepiro," is black and very good for cabinetmakers; it is a species of ebony and is strong. Implements of war and those for fiestas of the tribes are made of this wood; its trunk is twisted, and it rarely has a single trunk; the flowers are yellow and the berries much sought after, by goats, but it makes them abort.

ALGODONERO /cottonwood/. -- This is a leafy tree with many branches; it grows to a height of two meters, has yellow flowers and a white boll when it is ripe, which is then picked, dried in the sun, the material pulled away from the seeds and cleaned. The "mandiyu" cotton is very useful; hammocks, ponchos, saddlebags, and sacks are made with it; it would even be easy to manufacture macana, but this is not done because what comes from outside is very cheap and /19/ shower, even though it is not as strong as the other. Its [157] leaves used as a poultice are anticancerous, and its seeds in the form of a pomade work against herpes and skin eruptions; oil for lighting can be extracted from the seeds.

ANONA. -- The annona is a bush which grows to barely one meter; it has congenial places, the pampas, which have soil mixed with sand. In the said pampas it thrives in abundance, but it is even found in other places. The ripe fruit is red and like the pineapple in shape, but the pulp and seeds are like the chirimoya, as is the flavor of the pulp. Before it ripens, even the skin is very similar to that of the chirimoya. The Chiriguano call it "Asrico."

ASPIDOSPERMO BLANCO. -- This tree is of great size and it is abundant almost everywhere; the wood is white and good

/19 cont./

139 824 [859] in dry places: when dampness penetrates it, it is destroyed in a few years, as experience has shown. The bark that is found under the first layer is split, washed in tepid water, and left to steep overnight: it cures intermittent fever. The Argentinians call it cacha, the whites quebracho, and the Chiriguano "Iglizaro."

AZUFAIPO /jujube tree/. -- This is abundant hereabouts [862] and is a tree of medium size. Its wood is not valued very highly, but the fruit, the size of a grape seed and of a dark coffee color, is a great resource in times of scarcity for the poor Chiriguano. It ripens in January and February and is liked even by cattle and by sheep and pigs. The whites call it mistol and the Chiriguano "Tué."

245 BANANA TREE. -- Cultivated in orchards and well fenced-in fields, it forms a grove, and each plant yields or produces a cluster, very large on some of them. When the ripe cluster is removed, the plant that produced it must be cut in order that the others may produce their own. There are several [862] varieties, large and small, the latter very sweet and eaten as fruit, and the former only when boiled and roasted: the whites call them plátano, and the Chiriguano "Pacoba."

139 824 [871] BEGONIA ACUOSA. -- This is a tiny little bush one vara in height, which under the ground has a large root like a watermelon and even larger: it contains much pulp which, when squeezed, yields potable water and is used for it in times of scarcity. The Chiriguano call it "Sipot."

[342] CATALPA. -- This is a large tree and fairly strong. Its wood is used in the construction of houses. The color of the /70/ wood is dark, but when it is newly cut it is somewhat [515] green. Its flowers are purple, and the Chiriguano chew them to whiten their teeth: they are bitter and because of this the tree is called "Tayi," or bitter, in Chiriguano, the whites call it lapacho.

CEIBA. -- A large tree with deformed trunk, and furnished with sharp points, broad leaves, and large, white flowers which produce a material similar to cotton without fiber, for which reason it is smoother and shinier: it is used for mattresses and pillows and candle wicks. The wood is spongy and not at [322] all hard: from it are made troughs to hold water from year [415] to year and in this way they are not seen damaged. Its ashes

/20 cont./ [ETS 0545]
are good for the manufacture of soap. the bark is an emetic. The whites call it tabaruchi and the Chiriguano "Samuú." There are several varieties and all of them are utilized to some degree or other.

CEIBO. -- This tree is smaller than the former, but its wood is much superior, very fibrous, and rather light in weight, being used to make troughs which are very durable since they neither split nor are eaten by wood borers. It is very pretty when it blooms; the flowers are fiery red and good for salads. The Chiriguano call it "Isiraeub."

DRAGO /dragon tree/. -- A tall tree, straight and quite thick; the wood is strong and useful. If an incision is made in the tree, a very red resin comes out; its bark is the best for making the teeth hard and for curing scurvy. The gum called "dragon's blood" is extracted from this tree. The whites call it tipa and the Chiriguano "Cuapitiya guasu."

ENEA /carrizal/. -- An aquatic plant which abounds in certain ponds and pools formed by the water of rivers which flow away from the main stream; the Indians use it for roofing their houses, mattresses for partitions, and others for mats in the dwellings, on which they also have their bedding for sleeping. This is the totora or matara of the whites and the "Caipenga" of the Chiriguano.

ESTORAQUE /estoraque/. -- This is a very large tree of the forest; it has whitish flowers and yellow fruit the size of a fig, which is edible and a favorite of parrots and monkeys; the Chiriguano eat it as a fruit and call it "Aguai."

GARCATEA or CARECA MANSITA. -- This tree is not very abundant nor is it found in every section. It is of normal size, with a straight trunk and smooth bark softer than the fig tree; the wood is soft and is of no use at all, being similar to that of the ceiba, or tabaruchi. Its leaves are like those of the fig tree, and the fruit is of the /TU/ same size and form, but yellow; it is edible and good when boiled or roasted. If eaten raw, it hurts the mouth. In Chiriguano it is called "Caincantina."

/21 cont./

137 824 [245] GUAYABO /guava/. -- This fruit-bearing tree is found wild and cultivated; it is of medium size, and the fruit, when ripe, is yellow on the outside and purple on the inside, and its bittersweet flavor is very pleasant and laxative. The green fruit and the roots are astringent; the Chiriguano know it by the same name. The wood has no use at all, and even if it [262] did, the Indians would not use it because it produces edible fruit. They regret it when any of these trees and others, like the algarrobo, are destroyed.

GÜEMBE. -- This plant thrives on the trunks of high trees, where it puts its root, and others which penetrate the ground [492] hang down from there. The roots and lianas are dark in color; very strong and durable halters are made from its bark; it is not found everywhere. One encounters it from the left bank of the Parapiti River; its fruit is similar to that of maize, for which reason it is called maize of the air, and it is edible.

HIGUERA AMERICANA /American fig/. -- This is the [262] guapoy of the Chiriguano and the biboui of the populace; although the fruit is rather sour, it is edible. Bats like it, and it [797] is annoying to have this tree near the dwellings; it has a milky juice like the common fig tree, which, applied to wounds, heals them. In addition to the above fig tree, there is the [245] common one which flourishes with very little care, in the towns, [439] especially the Mission ones, it is widely cultivated by the [431] natives and its fruit is used by them for gifts and trade with the whites.

244 MANDIOCA. -- This plant is called "Mandio" or "Mandiporopi" by the Chiriguano Indians. A little book written by a Jesuit missionary of the old Paraguay missions relates that this plant was left to those Indians by Saint Thomas the Apostle who, according to their tradition, came here to preach the doctrine of the Redeemer. Mandioca is [252] an excellent food and very digestible; it is eaten boiled, [262] roasted, and fried in lard. It is a plant cultivated by whites and by Indians.

/24 cont./

245 PAPAYO. -- This tree is neither native like the palma Christi, nor is it found wild like the latter. It is grown in orchards or in well-fenced fields, grows very fast, and produces fruit one year after being planted. Its trunk is straight, soft, and hollow; some have two or three branches and rise up to four meters high. The fruit is refreshing, yellow, with a smooth skin, of the size and shape of a small melon, even the flavor being somewhat similar, but it is more digestible. Many fruits are bunched around the trunk and are also found here and there at each leaf, but always attached to the trunk. The plants which produce the fruit are the good ones, and they call them "females." There are others which they call "males," but their fruits are useless and are not attached to the trunk, but rather hang from it like streamers. It is useless to pick them. To have a good papayo tree they assert that, in transplanting one, it is necessary to take the precaution of always putting or burying two plants in each hole, one of which will always be a female, and the one which turns out to be male will be pulled out. I do not know if this is true, but I did it this way in January of this year. The fruit contains many seeds which, [251] when ground and drunk in an emulsion, are good for getting rid of worms. The fruit and the tree have a resinous milk. [252] Therefore, in order for the fruit to be good and digestible, it is better to cut off the ends and make about five or six vertical cuts so that this resin may come out; by the next day /illustration appears here/ /25/ it is already very pleasant. It is nevertheless best to take the precaution of letting them begin to ripen on the plant itself; in this condition, uncut, they will last up to six days without going bad; then they can easily be transported great distances.

137 824 [252] [262] PASSION FLOWER. -- This is a climber which is found on fences, clothing them in the rainy season with abundant foliage, as does the "supua," whose fruit is edible and good roasted or boiled, as is the leaf. The fruit of the passion flower is of the size of an apple and just as smooth, the skin is thin and the inside is found to be covered with a white, stringy membrane. When this is broken, the seeds of the fruit come

[TEXT CONTINUES ON P. 43]

/27 cont./

[139] [824] which is purple when mature and opens into three sections when ripe. It has an insipid sweetness, but one which both [262] whites and Chiriguano like. The color is a bright purple. It is abundant, and in certain years of scarcity it is a resource for human life in the months of February and March. In Chiriguano it is called "Nocaglina." The caspari is another cactus, taller than the preceding ones, which also has its congenial lodd. /28/ since it is not found everywhere. It is admirable for its tall, striated leaves or branches, ash-gray and armed with spines; its fruit is very pleasant and also sought [342] by foxes. The trunk is soft like that of all cacti; nevertheless [159] doors are made of this wood and are durable enough. The pulp of the trunk is used medicinally to cure liver ailments, etc. They say that it is even good for goiter. There is another species of cactus which grows to some 20 or 25 centimeters; it is round and thick, striated and armed with spines. [524] In Chiriguano it is called "Zipepe." The children, as we shall see, make wheels by cutting off its spines, and, making it roll, they use it as targets for their arrows. Finally, there is another which is trailing and long, covering the ground where it grows and making the place impenetrable. This has and [262] produces a very delicious fruit which is called "Tapiacaru" in Chiriguano.

TILANDSIA. -- This plant is known to the Chiriguano by the name of "Caraguata guaso." Its special place is the [342] hills, and among them it has some more congenial to it; it [283] grows well enough, and its leaves are extraordinarily broad [492] and long and ash-gray in color; in the middle there is a thick stalk which rises quite high and is good wood for house rafters; from the crushed leaves they make cord and from these are made first-rate halters for tying up animals in the rainy season. [286] The Tobo and even the Chiriguano make a kind of net which [171] they call chipa or "allapoca," which is very useful, inasmuch [482] as the women can carry any weight in a bag of that kind; from [829] the same they make nets so as to be able to fish in the rivers, and these are pieces of work which would attract attention in any part of the Old World.

/28 cont./

139 824 There is another small caraguata which invades wide areas of land, preventing any animal from entering there, because it has spines on the bottoms of the leaves. In times of scarcity [242] its root is food for the poor Chiriguano: the root contains a little starch which has the taste of mandioca, but it requires [243] great effort to pull it up. The leaf of this tilandsia is also good for making cord.

Finally, there is a third one which flourishes abundantly in trees and on the rocks of the hills, but which has no peculiar properties: it is large because of its leaves, which measure up to one meter in length. The plant is thick, the leaf fleshy, and it is used to decorate the streets with arches during processions. The aloe is similar to the second type of tilandsia, but aloe leaves are wide and thick, full of juice, while those of the tilandsia are slender, arched, and dry. The aloe is not abundant; only an occasional shrub or plant is found.

244 /29/ TOMATO. -- This plant which produces fruits so pleasant and useful to the culinary art flourishes exuberantly in these lands: the fruit from each plant is abundant and is produced the year round when some care is taken to protect the plant from the cold or from the light frosts which customarily [237] fall in June and July. To do this it suffices to pile up dry cow dung in two or three places in the tomato patch and set them [177] afire. True tomato plants are also found in the woods, but it is presumed that some bird must have carried the seed to such places: the tomato is a plant which has been brought into the Chiriguano country, as is the case with the onion, the sweet potato, and the cabbage.

222 In the woods there is a kind of tomato in the wild state, which is somewhat similar in appearance and taste, but which is quite different from the true one: it is picked green and allowed to ripen in a room on top of a piece of wood; in a [244] few days it turns red, which is a sign that it is ripe. The chili pepper also produces abundantly and with little care: it is a plant which lasts up to three years if care is taken to prune it, and the second and third years the fruits are very hot. Another kind of small, round chili pepper abounds in the woods and bears spontaneously: it is called arivivi by the whites and "quii rai" by the Chiriguano. It is hot, and some cure sickness.

222 /29 cont./ IT is hot, and some cute sickness,
[197] or inflammation of the eyes. with it. Nevertheless, one should not confuse this little plant with another similar one whose fruits lack flavor and which is called by the Chiriguano "Aguara quii," which is to say, literally, chili pepper, of the fox. The best way not to confuse it is to taste the fruit; it is found everywhere.

243 TRIGO /wheat/. -- The Eternal Creator of all things in his bounty and mercy arranged that this small plant, necessary in every aspect, should yield its fruit in every region inhabited by man; thus, in spite of the excessive heat, it is harvested here in abundance, and the farmer is not robbed of his hopes if he takes care to irrigate the field opportunely. Barley also flourishes in irrigated lands, but the cultivation of both has been abandoned for reasons already expounded in these pages and also because birds greatly bother both crops, as also happens in the rice paddies, which will be found empty if they are left to the discretion of our flying friends.

[824] There also thrives together with maize, or in other places,
[A12] the wheat called Guinea, or sweet sorghum, which the Chiriguano call "Tricu" and which is indigenous; it is sweet, matures with maize, and they suck it, as well as the panicled sorghum, which is a kind of sorghum /30/ without sweetness and used for making brooms for sweeping. The seed of both plants is liked by birds.

139 VID /grapevine/. -- Farther on I have said that this plant
824 pre-eminently required for the Sacrifice, like wheat, thrives
• [262] quite vigorously in this region. I add here that in the woods there is a tree with small leaves and unimportant wood, which rises up to some eight meters above the ground and whose fruit is the size of an olive, has a dark coffee color and a flavor like that of the grape, matures in the month of February, is edible, and is called "Ivaviyu" in Chiriguano. Also in the wild state is the native grape with its twining trunk. Its fruits are like a bunch of grapes; they are white and some even black, and they are good for the manufacture of brandy.

/30 cont./

137 824 276 YERBA DEL DIABLO. -- This is the datura which is so abundant in the countryside and fields and which is a real plague. It rises to one meter in height, has branches, broad leaves, white flowers, and fruit armed with spines which, when dry, are enough to draw blood. The leaves and seeds make one lose one's memory. In this respect I remember one incident when an Indian woman absent-mindedly or out of ignorance covered an olla of hot food with datura leaves; half an hour later she ate it and it gave her a bad headache and a short spell of vertigo. Her little granddaughter, a schoolgirl about six years old, ate some also, and she suffered a complete loss of memory and all her actions were those of a demented person, a state which lasted some 24 hours. It seems that the Chiriguano [F159] do not know that this plant and its seeds and leaves are poisonous; the latter, dried, are medicinal, alleviate the effects of asthma, and are prescribed for asthmatic Indians. Christians know it by the name of chamico, and the Indians by that of "caazi," that is, painful herb.

137 824 SAPALLO /squash/. -- There are eleven species of this creeping plant, which I shall discuss in another chapter, only adding that watermelon and melon also grow here, as well as the cucumber and the beet. The "curugua" and the "curuguami" [262] of the Chiriguano are plants which are similar to the sapallo, but they climb trees and produce there an oblong, sweet, and fragrant fruit; when one enters a house, it is immediately evident if there are curugua fruits there; they are edible both green and ripe, but they are preferable in the ripe state.

[342] I shall forgo describing many trees and plants whose medicinal virtues are known; I shall take up others when dealing with medicines; however, before I forget it, I shall note here at the end of the flora that a region where /31/ there are damp places abounds in secular cedars, whose wood is used in carpentry for doors, windows, tables, etc. So that it may not be subject to rot, it is necessary to get mature plants whose color is light red; the whitish one is attacked by the wood borer; the odor of the wood is narcotic, and this property keeps away insects; its odor is similar to that of the cedar of Lebanon, and for this reason the conquistadors gave the name of cedar to this tree which the Chiriguano call "Igüirane," or stinking stick.

/32 cont./

*136 *825 [281] bending or breaking every bush in its path. It is also a swimmer. Saddlemakers make from its hide headstalls and reins which are durable and hence highly valued. When the tapir is very small, it has a pelt like a fawn with yellow stripes and is easily domesticated. It is abundant near rivers and is very rare on the plains; few are found in the province of Acero. In the region of Cuevo and in others there are none at all, doubtless because these places are being settled by another type of man, that is to say, by whites, who can destroy them easily with the use of gunpowder. The Chiriguano like its [262] meat very much, and they call this animal "Borevi."

ARDILLA /squirrel/. -- A climbing quadruped which looks for its food in the trees which it climbs and goes down very quickly. There are two classes of these, one large and red in color and the other smaller and dark, but both are very graceful, with a rather long tail almost as large as the body as far as the neck and covered with rather long and very soft hair. When they sleep, they cover themselves up and protect themselves from the cold, the dew, and even from the rain with this tail, which they keep horizontally along the length of the body in order to climb and descend more nimbly. They [262] [224] [857] have very little meat, which is full of gristle, and, despite the fact that they are quite edible, the Indians hunt them very little; only the children hunt them for diversion and for practice in the use of the bow.

ARMADILLO. -- This animal, called "Tatu" by the Indians, is abundant. There are six types, which are: "Tatu," the generic name, or the true armadillo; "Taturapúa," balled armadillo; "Tatu rabucu," armadillo with hairs; "Tatu guasu," large armadillo; "Tatu acuti," a species of viscacha; "Anguya tutu," a species of large rat, but also with scales in common [262] [224] with the armadillo. For the Indians the flesh of all of them is edible, and the Indians of Yvu and Itatiqui continually go out hunting them. In dry places, like the pampas of the Gran Chaco, armadillos are more numerous; there they make their burrows under the ground in great lengths, making it dangerous to go on horseback through such places because the animals can sink in easily and at a gallop can break their legs, if they are not unlucky enough to crack their heads open. /Illustration appears here./

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*136 *825 The large armadillo is slightly less than one vara long; its burrow corresponds to its size and even more, and not infrequently the wild boar or peccary, when chased by hunters and dogs, finds a safe refuge in these holes. The meat of the large armadillo is not so good for civilized people, but that of the others is; I have eaten it many times. The fat softens the tumors and gristle in it. Armadillos feed on worms. [241] Nevertheless, the true armadillo is harmful to the maize fields when they are newly planted, because it searches out and eats the seeds; it is also very harmful in melon patches, of which it scarcely leaves a slender shred; when it gets into the [224] melons, it does not allow any to ripen. The Indians know well where the armadillo abounds; as soon as they finish planting the maize, on nights with a moon or without it, they go there and, helped by hunting dogs, kill them.

COBAYO /guinea pig/. -- This little animal is innocuous and plentiful everywhere. Its places are the fences, where it [262] hides with ease. It is similar to large rats without a tail; [237] its meat is very tasty, and bags in which smokers store tobacco, tinder, and flint are made from its skin. When it sees a hunter [224] or believes that danger is near, it hastens to hide in the thickness of the fences, but when the hunter hides, it is not long in coming out again in search of food, morning and evening, and then it is easy to kill with arrow or shotgun. The Chiriguano call it [231] "Aperea." There is another sort of multicolored guinea pig of the same size as the previous one, but this one is domesticated. The color of the true guinea pig is light brown.

CONEJO /rabbit/. A quadruped in the wild state, native to America, it is the size of a large cat. Its color is a shaded [224] white, and here there are none of any other color, but there [262] are in other parts of South America; its meat is delicious, and the Indians like it and hunt it; its form is the same as that of the domestic rabbit, and in the Chiriguano language it is called "Tapiti."

/33 cont./

*136 CORSO /deer/. -- This is found everywhere and is called
*825 "Huasu" by the Chiriguano and hurina by the whites: there are even white ones, the females without horns and the males with them; another type is called "huasucaca." Both feed off
[231] grass, and the little ones are pleasing with their hide dappled with light spots; they are easily domesticated while they are still nursing; for food, when they are domesticated, goat's or sheep's milk can be used. The huasucaca is very similar to the deer; both male and female have branched antlers when old, but /34/ their meat is not as good. They travel in herds.
• [262] Hunters pursue both types because they have a lot of meat, for
[224] which reason they are called "huasu," which means "large." They hunt them with considerable work and with the help of dogs trained for the purpose, or, if they are hidden, they imitate their bleating or cracking sound, and when they come
[281] within bowshot, they do not miss in killing them. The
[291] Chiriguano tan the skin of these animals and make a jacket from it, which I shall discuss in its place, but today this de luxe Chiriguano garment is disappearing, nor do they tan leather any more; today they use these skins for their beds; it is nonetheless a perfect material for footwear because of its natural softness and smoothness.

*136 GAMO /fallow deer/. -- It seems that this class of animal is from the mountainous and temperate region; it is not found beyond Monteagudo, nor do the Indians here know it, but it used to be found and still is found in their former territory of Padilla, Tomina, Tarvita, etc. This is the fallow deer, the size of a goat, with cloven hoof, ash-gray in color, and quite a swift runner; it is herbivorous, quite edible, and goes in herds.

GUANACO. -- This is a kind of camel, from which it differs in size and because it does not have a hump. They are found in abundance at the top of the high hills of Potosí and other cold mountains; it thus seems that the hills and the cold must be congenial places and the only ones in which they can prosper. Nevertheless immense herds of this quadruped can be found in the pampas of the Gran Chaco, where the heat is oppressive and where there is nearly always a scarcity of water; it is easily domesticated and in this state is a real llama.

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*136 *825 [224] GATO /cat/. -- There are domestic ones, which are called "Minta," and there are wild ones, which are of two kinds. One is called "Baracaya" and is very harmful to chickens: at night it approaches dwellings in the country and even in towns, and it beheads any chickens it can: its meat is delicious and pleasant, and the Indians hunt it. The second species is called "Eira," or "Yaguarundi," depending on the locale: it is a species of small jaguar, slightly smaller than a fox: it has light spots on its pelt, and it runs and climbs trees very rapidly. It is not dangerous nor does it approach [224] houses in towns. The Chiriguano hunt it only for the pelt, which they sell at any price.

*136 *825 224 JABALI /wild boar/. -- Nothing suits the jabalí better than forests and the slopes of hills where it is difficult to penetrate. Therefore they multiply in the forests and form immense herds: the beast is /35/ ferocious. It is a rare occasion when one finds this type of quadruped, so similar to the • [262] domestic pig, in a solitary state. The Indians call it "Taitetu," and they like its delicious and pleasant meat, but they almost never go out alone to hunt it, because it is a fearsome animal and charges impetuously, and only with the aid of dogs do they manage to kill some, and then the rest flee, but woe to the hunter who finds himself alone! The way to save oneself is to climb a tree which has a good trunk and better roots: otherwise in their rage and with so many of them they will tear it to pieces. If the hunter took the precaution of not abandoning his bow and arrows, he can easily kill all the jabalí he wants from that somewhat safe and sure place. When this animal chases the hunter, the dog will stop the chase and remain at some distance, because, without his master to defend him, he becomes cowardly at the sight of the immense tusks which sound like a hammer on an anvil.

*136 *825 LEÓN /lion/. -- This is not the majestic beast of Africa, nor could it here be the king of the beasts. It is the puma, and the Indians call it "Yaguapinta," or red jaguar, and in fact it is quite similar to the jaguar in its features, so much so that there is often a cross between the two animals, resulting in a neuter animal which is more ferocious and rapacious

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136 825 pick eight or ten ears, remove almost all the husk, leaving a few leaves on each ear and tying them together like a saddle-bag, put them over the shoulder in such a way that they hang down the back and chest, and go on their way. Meanwhile the monkeys have observed it all, come down, perform the same operation, and go back up the trees, or to the rocks, happy and content, to eat the fruit of their accomplishments.

There are four classes of monkeys: black, white, yellow, and red. There is also an orangutan that the Indians call "Caraya," hence the place called Carayagua, cave of caraya or orangutan. Monkey meat is good, but the Chiriguano do not hunt it; they do kill them because they are harmful, and they catch the young alive for pets. The abilities of the monkey are already known.

OSO /bear/. -- There exists in this region the true bear, which the Indians call "Yaguapope" and the whites, jucumari. It has long hair which comes down from its head, covering its face so much that, in order to see well, it raises it with its hands. It is fearsome when irritated; it throws stones and strips branches from trees and uses them as a club; the jaguar can do nothing with this animal, and should it measure its strength and ability against it, it is unlikely that it would get out alive. It has excellent meat, and the Indians hunt it, but woe is he who dares to do so alone and whose arrow misses and wounds it slightly, since it will quickly charge and smother its enemy!

224 262

PECCARY. -- The peccary, called "Tayasu" by the Chiriguano, is similar to the wild boar /jabalí/; this animal is more fearsome than its fellow-creature and has the same instincts. Both quadrupeds feed off roots, mistol, chañar, algarroba, and such other fruits as there are in the forest; the hides of these animals are easily tanned, but the Indians scarcely even use them for their beds. The jaguar is the constant companion of the female peccary who have young, /37/ because when it can, it quite calmly and patiently catches one, but if it is not careful and the little animal grunts loudly enough to be heard, the mother and the males come to its defense, and if the jaguar values its life, prudence will advise it to climb a strong tree.

/37 cont./

000 to climb a strong tree. The young[1] are quickly domesticated
*136 and more than the domestic pig; they will not go away from
231 the person who was kind to them when they were little. One of these piglets was domesticated by the apprentice musicians of the Parapiti, was with them day and night without bothering them, and when they came out of the music hall to practice marches through the town, the peccary would go along in front of them, making a thousand faces and hopping about to the sound of the instruments.

*136 PORCUPINE. -- This small animal is not numerous, but
*825 it is found. It gets into chicken coops, which are generally located in trees. According to what I have heard, it is not harmful and merely likes the company of the hens at night, but the latter are afraid of it, as they are of any strange animal. Its skin is entirely covered with long, flexible quills, and when it sees itself pursued, it humps up and throws the said quills with so much force that they injure any part of the body. It
[224] is sometimes hunted because of the chickens, but not for eating. The Chiriguano call it "Cifli." If a dog bites it, it gets its mouth full of quills which cause pain.

TAMANDUA /anteater/. -- This is an innocuous wild animal which is easily domesticated. It has a very long, narrow snout, which it introduces into ant hills, and it takes its delicious lunch with its tongue, to which an infinity of ants stick. In the domesticated state it even feeds on milk, but it is painful to watch it sip this liquid drop by drop with its exceedingly slender tongue. Apparently males are unknown in this species of animal, and it seems that all of them belong to the female sex. It is very probable, however, that all the individuals of this species are members of both sexes, despite the fact that only the female sex is apparent in them.

The anteater, or tamandua, is inoffensive and does not
[224] bother the fields; rather it destroys ants. The Indian hunts it
[262] in order to eat it, because for him almost all meat is good, since he says that he is poor and thus avails himself of anything, even poisoned animals and those that have died of hydrophobia.

1 [i.e., of the peccary. -Analyst]

/40 cont./

224 animal is capable of distinguishing between the brave and
*[825] the cowardly, and the latter is the first to be attacked and consequently to be badly injured.

*825 Jaguar skin, as I have already said, has intrinsic value:
[554] it is used in saddleries for the bottom padding of saddles and
[281] for saddlebags; it is a luxury for persons of rank. The ani-
[759] mal has a quantity of fat, and this is a good remedy for
[439] rheumatism, aching bones, and other ailments; the Indians take it and sell it in the interior of the Republic and trade it for used clothing. It is to be noted, however, that they do falsify it, as they also falsify snake grease, because it can be understood that the killing of this ferocious animal is not a
[466] frequent thing. Rarely does the Chiriguano hunt the jaguar, and he is not always inclined to help the white man, but the latter forces his peons to do so, and they gather the fat and
• [267] sell or present it to their friends or relatives. Jaguar meat is good food, although, to be sure, it smells wild, as does the skin, but this meat, if placed in salt water or brine overnight, loses its bad smell; they assert that this meat is like that of a cow.

*136 The male jaguar is quite large. I measured one, and it was two meters long from the tail, one meter high, and it weighed seven arrobas. The female is smaller; I measured one that had just been killed; from the tail it measured one meter and ten centimeters, was 75 centimeters high, and weighed four and a half arrobas. The female gives birth
[231] every three years, and the newborn cubs are always a pair, one male and one female; the mother is most dangerous when she has young /illustration appears here/ /41/ and defends them at any cost, but hunters first kill the mother and then try to catch the cubs alive; they almost always succeed and take them home to domesticate them, but this is an impossible job because they are jaguars forever; I have seen two of these cubs well chained but very bad. In general, cubs when taken away from their mother die in a few days either through lack of adequate food, which is milk, or also out of desperation upon finding themselves in the midst of beings foreign to their nature.

/41 cont./

*136 *825 [224] [262] [869] The Chiriguano hunts and kills the fox as a mischievous and harmful animal, but he does not eat its meat because it is very strong and lean: /42/ he does eat it occasionally, when he finds it to be fat, airing it so that it may lose its bad odor: it is a common food of the Toba Indians. The children entertain themselves with this poor animal, catching it alive and making it fight with the dogs, who kill it slowly.

*136 I here bring to an end this brief resumé of the principal quadrupeds by size, ferocity, and special characteristics. I have omitted the description of many because they are found in other regions, and others because they do not offer anything unusual for consideration. Rats are plentiful and in some years invade the towns. There is no lack of female foxes /raposas/, [231] which are easily domesticated: the ferret is rarely seen and is very nervous and harmless, but it has the peculiarity of hunting all the insects in a house.

Reptiles, Amphibians, Fish, and Insects

It is not necessary for me to dwell particularly and extensively on the types of living things indicated at the beginning of this section, because they are found in every region of the world: I shall describe the singular peculiarities of the known ones and the nature of some which are peculiar to this place and to South America.

*825 [231] Almost all the snakes here are poisonous because the place is very hot, but the most poisonous is the rattlesnake: it operates rapidly with its fang, and only with immediate cauterization can the patient free himself of its death-dealing effects, while the boa, which is thick and long, is harmless, so much so that some domesticate it and put it into their cane fields so that it will scare off every harmful beast, even the fox which, as we have seen, is the animal which does the most damage to the sugar cane.

/42 cont./

#136 We can count among the amphibians the "Bolcururu," or snake toad, which is nothing but the water tarantula, but it is very poisonous here: it is found near lakes in the swamps. Frogs are found in small numbers in the center of the region: they abound where there is water on the banks of rivers: only the Tobas and other barbarians eat them: the Chiriguano do not. There is an infinity of "Cururu" toads in terms of size, color, and song, one being distinguished among all of them, the one that the whites call "Rococo" and that is heard continually and loudly at a distance of one kilometer at night in rainy weather and where there is water.

#136 #825 [1597] [164] The toad is medicinal: one or two large ones are gently caught alive and, one after the other, applied /43/ to parts of the body affected by erysipelas, which is cured very efficaceously, with the animal being left dead, doubtless because with its cold belly it absorbs all the heat which the sick person has in the said painful parts: more than once I have seen erysipelas cured in this way. In rainy weather there are so many of them that it is impossible to sleep near the place where they gather to sing their discordant tunes: at the end of a heavy shower is when the noise of the toads is most unbearable.

#136 Fish abound in the large rivers, where there are shad, bagre, and dorado: the latter reach a length of two meters, as I have seen, and are very palatable and drip blood like cow's meat. Then in the same rivers, streams, and permanent lakes, there is an infinity of small "pira" fish, which are good to the taste, and finally there is no lack of eels, "Chorinchi," or the useful leeches, "Evoipe." Indians who live on the banks of rivers of great volume trade in fish: to be sure, they plant fields, but generally they do not harvest because of the lack of rain, but obtain maize in exchange for fish: dried shad tastes like cod and is worth 10 and 20 centavos. 43

#136 Insects are innumerable, but not as abundant and varied in their form, size, and color as they are in the region of the Beni, the Mojo, and others: they are a hundred times more numerous than all the quadrupeds and birds together: there are bothersome ones, like mosquitoes and zancudos /long-beaked mosquito/, and there are poisonous ones, which, however, rarely cause death.

/47 cont./

#136 Crickets abound in the fields and dwellings; they do little damage in the former and a great deal in the latter. Not even silk escapes their tiny mouths, but rather this seems to be the type of clothing or adornment which they most prefer. Sometimes they get into the chests of drawers in the sacristies and do irreparable damage, ruining the best sacred vestments.

• [125] Another insect, which apparently has three names during its life cycle, to wit, polvorín /powder/ at first, colorada /red/ later, and garrapata /tick/ when big, is present in great numbers in the fields, meadows, and woods. It is dangerous in all three stages: it produces a smarting sensation, and if the affected person scratches himself, there then appear lesions which are only cured with difficulty and over a long period of time. Once I had them for three months, in spite of the medicine which I applied to them three times a day. The garrapata is easy to remove at first by pulling it off and trying to see to it that the head does not remain in the skin, but if it is well attached /48/ the affected part is anointed with grease or oil where the tick is attached, and it will come loose of its own accord; otherwise the pain and the trouble last for several months.

There are lizards of every size and color; the smallest ones are inoffensive, although they cause some fear, but they are the most useful because, like toads, they hunt insects in dwellings. In the woods there is a kind of lizard one meter long. It runs very fast; when it sees that it is being hunted and is cornered, it defends itself by biting, but it is not poisonous.

• [126] It lives in certain places and is hunted by the Indians, who eat it and assert that its flesh is tasty. In the large rivers there is the cayman, a species of crocodile, which is also found in the lakes with permanent water, but rarely. This is a very fearsome and dangerous amphibian, which is difficult to kill because it has very tough scales, but above all because the one shooting is almost at the same level as the animal; the bullet is fired horizontally, and it is natural that it should bounce away. Does this not perhaps also occur when children throw stones across the water? The cayman lives for months on end submerged in the water, and even submerged in the

/49 cont./

#136 The best remedy in both cases, in order not to damage either one or the other very much, is to leave them in peace and not take away from them the earth that they build with or extract; otherwise, the more one takes away from them the more they extract, often leaving the foundations and walls completely hollow. They say that foundations can be freed of this easily by burning gunpowder there or setting fire to petroleum. From year to year, or perhaps more often, these lice grow wings and fly away, not to return, but the larvae remain in the place.

To close this section I shall say something about three other types of insects, so that my readers may see that there is nothing lacking in the Chiriguano region. I am going to name them, with the leave of any delicate girl or genteel lad who by chance may read these lines. They are the flea, the louse, and the bedbug. The first are only abundant in the cold season, from May to August, when the south wind is strongest; the second are peculiar to dirty people, who kill them by prettily eating them for fun; the last nest in the beds, and the best way of getting rid of them for a long time is to place the infested bed for one or two days in the water of a stream where the current is strong or in a lake.

Birds

#136 ● 262 If in the region which I am describing, tame and wild quadrupeds are abundant in town and forest, if there are innumerable insects which annoy man day and night, causing swellings, tumors, and even worse injuries, such as the occasional loss of an eye, if there is no lack of poisonous animals, such as the rattlesnake, if there are delicious and enormous dorados which are gifts to its consumers' stomaches, there is also an infinity of birds of every size, shape, and degree of beauty, which cross through the air, making the cool mornings joyful with their harmonious songs, fluttering above the buildings and resting happily thereon; they play about in the /50/ air, purifying it and providing the Chiriguano, as well as one who is not, exquisite food with their flesh, despite the fact that some of

/50 cont./

*136 them, if they do not destroy the entire field, do make the work
• [262] of the harvest somewhat lighter. I shall deal briefly with some of them.

*136 ÁGUILA /eagle/. -- The one that is known in this region
*825 is not the true or the real eagle: it is similar to it in form, but not in size. There are two types, one black and red and the other ash-gray. It always lives in the country, does not approach towns or country houses, and lives on dead vipers, locusts, crickets, little birds, lizards, and insects: it is not harmful to man or to his belongings, nor does he hunt it, with the result that it lives as it pleases. It is called "Gilirapinta" in Chiriguano.

AVESTRUZ /ostrich/. -- The region of the ostriches, which the Chiriguano call "Yandu," begins from Yvu. I have seen them here in the wild state, in Santa Rosa and Igüembe in the domesticated state. Nevertheless, if their region begins in Yvu, where they are abundant, it is in the Gran Chaco, there in the pampas of Carandaiti, where I have seen them as big as a lamb with a ribbon of black around the neck and chest. I have seen them in flocks of 10, 15, and 20, and some of them so tame and so near the road that it was very easy to kill them with a single shot from a shotgun, which, of course, attracted my attention, since on other occasions I have seen them alone, and they ran away like the wind when they heard only a human voice. When I asked for the explanation of this different attitude when they are alone and when they are together, my Chiriguano and other companions of his told me that they only gather together in the months of July and August for the propagation of the species, the same as they gather in fewer numbers in October or November, which indicates that they lay their eggs during two periods not very far apart.

The female ostrich is smaller than the male, her feathers are less colorful, and she does not have a collar like his either. She lays some 20 or 25 eggs in the month of September, which
1 are the equivalent of 240 of those of a hen in weight and substance. Other eggs, in lesser number, are laid in the month of December, but not always, nor by all the females, but only the youngest. I measured and weighed one of these eggs: it

/50 cont./

*136 *825 was 15 centimeters long and 28 and five millimeters in circumference: its weight was one libra and a half, equivalent to 12 chicken eggs that I also weighed. With one of these eggs a family of four or five Chiriguano can eat well. *[842] They get these eggs both in times of scarcity and other times as well.

*136 The nests are found in September and December, and the male /illustration appears here/ /51/ is the one who sits on them, especially when two females deposit their 40 or 50 eggs in the same nest. While the male is getting thin on the nest giving necessary warmth to the eggs, they go off looking for another male to frolic again as they please in some *[825] distant pampa. My Indian and all of those whom I asked about this matter state that it is the custom of all ostriches not to hatch one to three eggs that they lay: the female at the time when she lays them scratches about, prepares the place where the nest is to be, breaks up the earth with her beak, and covers the two or three reserve eggs with it. When the young begin to come out of the shell, the male breaks the spare eggs, and this attracts flies and other insects on which the newborn feed. How admirable is the Providence of God which has endowed every living being with a special instinct in order to fight for his own preservation!

The ostrich feeds on everything it finds, especially insects, field crops, and grasses: it cleans and refreshes its body with sand or earth which it picks up with its broad beak, runs very rapidly with the assistance of its wings, but never flies, because its wings are small and delicate and its body heavy. To catch or hunt it, dexterity is needed more than valor, because in its mad dashing it always swerves and dodges, especially when danger is near. If its flight were in a straight line and did not have the sudden and quick dodges, a good horse and a pretty good dog would soon catch up with it. This semiflying animal would be the king of birds if it flew. In the domestic state it can be harmful to careless people: it swallows everything it finds, even keys and money, and in a field of beans it will finish them off without letting them ripen. It will destroy everything in a garden. When captured alive in a wild state, it will attack and defend itself with painful pecks.

/31 cont./

Its meat is excellent, and I have eaten it on numerous occasions. The Indians go to hunt the ostrich to prepare for their bacchanalias; they trade their feathers or keep them, and with five of them make the "Tamiguna," a kind of parasol of which I shall speak in its place. The fat is a most efficacious remedy for the side, rheumatism, and stiffness of the hips in men and animals, for coldness of the members, and for removing thorns by anointing with it the part opposite the place where the thorn has penetrated.

SANDORIA. -- This is a bird which the Indians call "Tuti" because this is the sound of its song. It has a long beak, long red legs, red and ash-colored feathers, /32/ and a long neck. It feeds on little worms and insects and is generally found in open fields and banks of rivers and lakes. The meat is like that of guinea fowl, but very tough, although if the outer skin is taken off before boiling or roasting it, it can be cooked easily.

The banduria resembles the crane somewhat, but it is stationary, abounds everywhere, and is not solitary, but neither do they gather together much. A flock is composed at the most of some 12 or 15, and frequently one finds a single pair. If one of these is caught, its companion will fly away immediately, but will come back two or three times to find out what has happened. In this way it is easy for the hunter to kill both. The banduria has a highly developed instinct, and when the hunter approaches, it quickly flies. When there are many, they fly like cranes, with one out in front to break the air. They do not fly very high and generally sleep in a hole in the rocks, where it is easy to hunt them after sunset.

BUHO /owl/. -- This is a large nocturnal bird like a condor and whitish in color; there are two kinds, the second is smaller and black, ash-gray with a white collar; the Chiriguano call the first one "Yancuruntu," because when it sings it seems to articulate this word. The female of the Yancuruntu answers "Yaparapiri," which in Spanish means "matemos" /let us kill/, from which the whites are inclined to jump to conclusions and start rumors that the Chiriguano are thinking about an

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/12 cont./

opening, should this pair of owls start to sing on occasion in a town or near the house of some whites. The second is called "Ñacununcu," because its cry sounds like this. Neither of the two is harmful. They are plentiful where there are trees; the first eats bats, toads, and mice, for which reason it is not attractive to the Chiriguano, but it is a very pretty bird, and its feathers are like the finest velvet. The second is good food for the Indians, who hunt it on bright moonlit nights.

CARDENAL. -- A little bird the size of a swallow, with a red crest, ash-gray feathers, and a white breast. The regions of the cardinals begins in Parapiti Grande; occasionally a pair of them appear in some part of Ivu, and there are also some in the countryside of Caranda[illegible]. I have seen them in both places, as I have also seen flocks of 15 to 20 in Parapiti. It has no peculiarity other than its crest and its song at certain times of the day. The Chiriguano Indians of Parapiti and some Tapiis of here try to catch this little bird alive and take it to the interior of the Republic, to Sucre or Potosí, to sell or trade it /13/ for used clothing; in this sense it is a small, lucrative business.

CARPINTERO or PICAMADEROS /woodpeckers/. -- This is a black bird with a fiery red crest, and it is called "Arapetuare" in Chiriguano. When it flies away in fright, it makes a loud noise with its wings, is fast, and flies in a straight line. It is the continual desire of this little creature the size of a sendón to clamber tirelessly about dry and hollow trees, beating on them with its hard beak in order to make come out and to eat the insects that they contain. Sometimes the traveler, upon hearing these noises in the woods, believes that someone is cutting firewood and doing carpentry, or is inclined to believe, from the prolonged rattling of a hollow, dry tree being struck by the woodpeckers, that it is about to fall, if he does not know that it is being pecked by this little bird. Both of these things have happened to me on occasion. The Chiriguano does not waste time hunting the woodpecker, because it is a semisolitary bird, and scarcely three or four are found together in one place. Only the children hunt them for fun and in order to learn to be accurate in the handling of bow and arrow.

/54 cont./

*136 are somewhat grown, the condors have another procedure when the former are far from their mothers: two or three condors together push them toward some precipice, beating them with their wings, and, as they cannot escape, they run from side to side at the edge of the precipice and easily slip and fall into it, where, if they are not killed, they are left unable to run, either because they may have injured their legs or because the place they fell into is too narrow. The birds that did this then come down, as do others that see it, and they strike the animal repeatedly with their cruel wings and beaks and make an excellent lunch or supper of it, returning the next day to finish and to look for other careless calves.

[223] Nobody hunts condors, because they have no charm for either the Indians or the whites: the latter, of course, must defend their cattle when the condor is harmful, the same as is done with the jaguar. It is difficult to kill the latter because of its boldness and ferocity, and it is just as difficult to kill the former, because it will take flight at once, since it knows instinctively when it has done some notable harm. Nevertheless, as the number of cattle is great everywhere, the damage that these two creatures do is not great since it is not done to a single owner.

*136 *825 [262] CHUÑA /South American crane/. -- Some say that this semiflying bird is the "snake hunter," that is, the bird which hunts and feeds on vipers and snakes, but it seems that they are not correct, since the Chiriguano who constantly hunt it to eat its meat insist that its food is not snakes, but other small animals, such as beetles, locusts, crickets, and other insects, from which it can be deduced that the others are in error. The Indians from the right bank of the Parapiti southward call this bird "Sariama," and from the left northward the Indians and whites call it "Socori," as it is called in Guarayos.

*136 The chuña has long red legs, ash-gray feathers, and a crest; it runs across the pampas and low hills a great deal and also flies sometimes, especially when it is pursued. It sings in the morning /55/ and in the evening. They are in every section, but not abundantly; they generally go in the company

/55 cont./

*136 of a mate, and at the most there are three of them. Both sing at the same time. The female begins, and then the male continues, the song thus being prolonged for some four or five minutes. It is a very strange song or cry. They say *[825] that these birds announce the approach of wind or rain, and, if it is cloudy, they foretell the approach of clear or cloud-[224] less weather. Hunters who do not have the help of good dogs can only capture this bird with difficulty, because it runs and flies when hard pressed.

GARZA /heron/. -- This is a rather large, but light bird. It has a thick and somewhat long beak, flies little, and its locale is the lakes, ponds, and banks of rivers, where it finds *[825] its food. There are two kinds, one completely white, very white, for which reason the Chiriguano call it "Guiranti," or white bird, and the other is ash-gray and stays in the same places. [223] The Chiriguano do not hunt them, because they have very little meat.

GALLINAZO /buzzard/. -- This is a black bird, and repugnant to the sight, especially because of its bald head and neck; it feeds on the carcasses of dead animals, even a human body, nor does it refuse the chance to rip out the entrails and kill calves, lambs, and newborn suckling pigs, which it finds asleep and at a distance from their mothers. In the first instance it constitutes an excellent purifier of the air by making all the miasmas which come from the carrion disappear, because when there is any they finish it off in a few hours, for when it is abundant many of them gather. The buzzards discover dead animals and cattle killed by the jaguar; there are usually some turkey buzzards over the cattle and sheep corrals, where, despite the cleaning that they do, they sooner or later cause some damage.

[223] The Indian rarely hunts the buzzard, because its meat is •[262] tough and strong-smelling. He does, however, kill it oc-*825 casionally as a remedy. The warm blood of this animal is 757 of some use in curing his double chin /papada/, or that of his daughter, who may be ashamed of such a protuberance. For this purpose the blood is placed on a strip of linen and tied around the throat. They state that it does have some effect, but this must have to do with incipient double-chins of a few ounces.

/55cont./
*825 757 and not those veterans of several arrobas like gourds in the form of saddlebags, which are seen in abundance around Pozuelos, Piray, San Juan, and Pomabamba.

*136 *825 There is another large bird with the same instincts as the buzzard, called carcancho by the whites and "Caracara" by the Indians. It does not, however, kill calves; it does hunt and kill little lambs, suckling pigs, and chickens, disregarding with boldness and dissimulation the brood hen. /56/ This shameless, fearless bird is abundant everywhere and is capable of getting into kitchens and sticking its beak into the ollas; but its favorite spot is the corral, where it scratches about, looks for things, and eats, and like the most natural thing in the world it will pull out the entrails of a sleeping lamb or at the least blind it in one eye. The rascal gets into the nests of smaller birds and steals eggs or kills the young to eat them. All in all, it is a sad and ugly neighbor, with the result that all are its enemies, and some birds chase it out of their nests. Such is the practice of the bird that the Chiriguano call "Guirapipasa"; another called "Suiriri" gets on the shoulders of the carcancho and pecks it until it runs long distances.

[759] The Indians assert that carcancho fat is an efficacious remedy for the vision, and that they used it before modern medicines, which turned out to be more efficaceous and [262] active, were introduced. They eat its meat if it is fat. The [237] feathers of the carcancho and the buzzard are very strong, and [411] they put them on the ends of their arrows, so that they will not turn aside when they are shot and consequently will hit the mark better.

*136 [132] GOLONDRINA /swallow/. -- The heat is altogether too much at certain times of the year, with the thermometer in the shade up to 32° and in the sun up to 60°, but let it not be believed that this state of heat is the normal thing. There are months of the year, and in these months there are weeks and days, in which it is difficult to endure the cold, which is most intense in June and parts or all of July. As a result of this, the swallow, even here, is a pilgrim, emigrating at the end of April and returning at the beginning of October. There are some entirely black, and there are some with white breasts. The

/57 cont./

*136 saddle their horses as if they were going out to hunt wild beasts.

*136 *825 Other Christians and Chiriguano also defend their fields from parrots in a different way. They kill two or three dogs, or, lacking these, goats or old sheep, put them in the tops of trees a certain distance apart in the fields, and the parrots will not even come close to them. Let my readers not believe, however, that parrots are afraid of corpses, as some or most people believe around here; what they are running away from are the buzzards, who flutter about their meal or who sit in the said trees, attracted by the bait, for which reason one must take the precaution of placing the bait where the buzzards cannot reach it with their beaks or where it is not easy for them to roost. Thus some become tired and others arrive, the maize ripens, dries, and the parrots will go on their way or go to eat the seed of the soto, which is also abundant at farming time. Nevertheless, most people prefer to have their children in the fields to shout continuously to scare off the parrots or to shoot arrows and throw stones at them. [262] Even the adult Chiriguano engage in this work, because the meat of the parrot is very delicious, in spite of the fact that some are very tough, and they prefer it to any other bird, [223] wild or domesticated. /58/ In order to catch talking parrots alive, they tie up a tame one, and they capture with traps the companions who approach the prisoner.

*136 HORNERO. -- This little bird is called "Tiantía" in Chiriguano. It is red in color and is the size of the gorrión /a Spanish bird some 12 centimeters long from head to tail/. It is tame and not easily frightened, doubtless because nobody chases it. It is called hornero /baker/ because of the structure of its nest. What an admirable thing that so small a bird should make with its beak a true oven in miniature! When it has just rained, the little mason then begins to make its house, but if the rain is late, it flies to the shores of rivers, rapids, or lakes and gathers the necessary material. It is not satisfied with an old house; it wants a new one every year. For this reason certain trees or their branches are full of these ovens.

/58 cont./

*136 For the location of its oven, the little bird selects large secular trees, such as algaroboc, quebrachos, and sotos, but the latter are the ones it prefers. It tries to make sure that the branches are strong and free of small branches. The oven is relatively large. On one side it leaves a high, narrow opening, extending the walls inward up to a certain point, so that when it is windy the rain will not penetrate its nest, which it places behind said wall. Thus its eggs and its young are completely sheltered. The wall of the opening is in the form of a spiral, which takes two turns and a bit more. The mud of the whole house is mixed with the excrement of a horse or burro, and the bed, or true nest, is made out of clean, loose wool.

In these ovens there is a second round, narrow opening to the right of the first, about five centimeters high, perhaps in order to escape from some danger, but it is easier to conjecture that this little window comes into play when some strange animal, for example, the mouse, takes possession of the first turn of the spiral, where the mouse himself will make a third opening to get out on that side. I conjecture this because the ovens which I am describing are not all alike; there are some with one, with two, and with three openings. Other birds, called taracuis, nest in the abandoned ovens and often dislodge the owner from its still new house.

MACAGUA. -- An animal or bird which is very common, but which is not numerous. Indians and whites call it by the name which precedes these lines, which makes one suppose that it does not exist in other places or is not known by this name. Its song is monotonous and long in the mornings and evenings, made up of a monosyllabic "guá guá guá," and it goes on in this fashion for hours and hours until it is tired. This bird is the size of a large dove, /59/ with whitish feathers on the breast and ash-gray ones above. I am of the opinion that this is the true snake-killer, because it catches snakes alive to eat; the latter are very afraid of it and flee upon seeing or hearing it. The Chiriguano does not eat its meat, with the result that it flies and sings as it pleases.

[262]

/60 cont./

223 River, he tied inflammable material to the horns of 2,000 oxen, lighted it, and drove the oxen up to the heights, thus managing to get through and gain a victory over the Roman army, which, believing the oxen to be enemies running in every direction, abandoned the narrow pass to defend other positions and was defeated the next day. In the above-mentioned months young men and children sleep little at night in order to go hunting for doves and to have a delicious meal the next day with their families, since the slaughter of doves and other little birds which are unfortunate enough to sleep near them is great.

[221] [262]

*136 PATO /duck/. -- Where there are lakes or ponds there are innumerable ducks of many sizes and colors; some are so large that they seem to be geese. There are black, white, pink, and brown ones; the last are fat and delicious. The Chiriguano eats the meat of the duck, but he does not pursue it, because he finds this so difficult. When he can, he hunts it, but more because this web-footed bird puts or deposits its eggs on the shores of a lake, on top of the grass or hidden among the reeds which grow near lakes; these are /61/ avidly sought by young and old, men and women, because the water is not deep in these places. The duck is called "Ipe" in Chiriguano which is, literally in the water, since lake is called "Ipa," or wide or extended water.

[262] [223] [222]

PAVA /turkey/. -- They have their favorite places and do not go far from them; they will be found there exactly at sunrise and before nightfall. They reveal themselves when a hunter or anyone else approaches, because they immediately begin to cackle and to fly from tree to tree in fear, which causes a disagreeable noise. The turkeys are as big as a large chicken, with quite a long tail and black feathers. There are two kinds: the larger one is called "Yacu" and is found in abundance from the right bank of the stream Cuevo; the others are called charatas by the whites, "Anancua" in Chiriguano. These are numerous from the left bank of the Parapiti River in the province of Lagunillas.

*[825]

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*136 [231] Both types are very delicious, but the charata is best. Charatas are easily domesticated when small. The male is very ferocious in the domesticated state, attacks everybody, even the people of the house. The charatas make a great racket before sunrise with their strong and repugnant cackling. Cuevo is some 20 leagues from Parapiti and a little more than two from the Yvu Mission; a charata is neither seen nor heard in the former region or in its vicinity, but an occasional pair of them is found in the latter, and as one goes north from this mission toward Parapiti, the number of these birds increase.

*[825] PELICAN. -- This bird is called "Tanga" in Chiriguano, because when it sings it seems to be saying, "Tangá, Tinguí, Tangá." River banks and lake shores are its locale. There it finds its food. It feeds on newly born toads, which have a little tail, and it also eats small fish. It sleeps in trees and flies perfectly in spite of its size. It flies at a great height, and along its way it sings every so often, and the Indians say that when the pelican sings rain is near. This bird is not numerous; they always go by twos and sometimes threes. [262] Their meat is good to the Chiriguano.

PERDIZ /partridge/. -- This type of bird is not lacking either in the Chiriguano area. Partridges are of three types, each larger than the other. They live in the pampas, in the woods, and in the hills. In the idiom the true partridge is called "Inambu," the second, which has a preference for the hills, is called "Guáico," and it whistles like muleteers who are driving asses. The third, which is the codorniz /quail/, is called /62/ "Inambu tindi." There is a fourth large partridge, which is like the first, but red in color, and for this reason is called "Inambu pinta," but the guáico is the [223] largest of them all. The Indians hunt all of them with the help of dogs trained for this purpose.

PICAFLOR /hummingbird/. -- Many of these birds are seen, but it seems that there is only one species here. These are the smallest ones, and in Chiriguano the picaflor is called "Chino." It can hang its nest on any little branch of a tree and also in the straw or hollow cane of the roofs. It is only

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000 361 or five Chiriguano tribes at short distances. The only large town that I found on my travels is Membirai, which is joined to [114] [62] Choreti guasu on the left bank of the Parapiti. I know Caipipendi, where I often slept; the Indians are many, but they live in different places, forming groups of 15 or 20 families (2).

797 619 361 2. The beautiful Santa Rosa Mission was formed by bringing together into a single town more than ten small tribes which voluntarily, with their caciques, moved to the place shown them by the missionary. In Yumbía there are three small tribes a very short distance apart.

Attributes of the Cacique

622 Just as in a family there is the authority of the father who governs it, or, should he be absent, that of the mother, who looks after and cares for the proper /159/ rearing of the children so that they may grow properly and not commit disorders or start fights with one another, thus also in every town or tribe there is a Tubicha, great one, whom I shall call cacique, so that my readers may understand that the Great One is a person of authority and prestige. The attributes of the cacique are multiple; when an epidemic has broken out or is about to break out in the tribe, it is he who seeks out the sorcerer to dispel it. If the tribe is suffering a drought, he goes to the master of the rain, who is another sorcerer (1).

[631] [643] 1. In each tribe there is but one cacique; many caciques are under a regional cacique who can dismiss the lower ones.

[262] [273] At the time of planting, while the people of the tribe sleep or rest in their homes, he goes out to the small plaza or in front of his house and, walking about, holds forth to the town, encouraging it to sow sufficient maize so that when it is ripe there

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622
[262] may be general rejoicing with the drinking of the pretasted
[273] Cangũi, chicha, squash and beans to eat together with Aticũi, meal, and Atipíi, parched corn. In his prolonged discourse he recommends union in labor so that it may soon be finished, since the field of the cacique is planted first and then those of the rest, with all of them helping one another. When I came to the missions, the soldiers of the cacique Gũiraesa still did it in this way. I shall speak of this cacique and his family in another chapter.

622
692 The cacique also arbitrates the arguments which frequently arise in the planting season, since even among these people there reigns covetousness of the property of others, should it be good and free of brush; he settles family disputes, admonishing the parents and also their children. If a theft occurs, it is also he who makes claims before the cacique of the neighboring tribe, but if this should occur within his own, he will summarily administer justice. His sentence is absolute and in general not subject to appeal (2).

[799] 2. There are several caciques in the missions, because they are made up of several tribes. The missionary governs them all, with the result that the authority of the caciques is almost nominal.

721 It frequently happens that, as a result of some affront done to some woman of a tribe, a bloody war begins, which assumes the characteristics of a regional one. This happened during the
[643] 1850's in the Cuevo region. The cacique Gũiracoti tried without
[837] success to have relations with the wife of Yaveau, cacique of the right bank of the stream of Cuevo. In revenge the offended man disposed of a head of cattle belonging to /160/ Gũiracoti; hostilities were then declared and each cacique prepared for war.

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462 562 The woman among the Chiriguano is a true slave, and the man her master. His work for the family is limited to planting and weeding, as well as fetching the necessary fire-
[517] wood. In addition, /208/ as a diversion and pastime, he takes his bow and arrow, goes out into the countryside and hunts, or fishes in a nearby river, spending the rest of his time talking with his friends, recounting exploits, telling stories, Miani, playing cards and throwing dice, even going so far as to bet the tipoy or cutama of his wife.

She, on the contrary, is the work horse of the house. She
[482] carries the maize with her Añapoca, a kind of net, goes to
[515] the spring and carries on her shoulders and over long distances some 50 libras of water, prepares food, makes chicha, cleans her house, spins, weaves ponchos, makes ollas, cares for her children, raises animals such as pigs, chickens, sheep, and goats, makes cheese if she has cows, and, as if all this were not enough, in the afternoon she sits down next to her lazy husband, releases his healthy hair, and as a distraction goes looking through that labyrinth for the insects which nest there,
• [262] without feeling any disgust. I am not talking about killing them, but about doing away with some with her teeth and making a snack out of others, a very simple thing for these women.

562 593 Everything is permitted for the man. He can play upon words and make lascivious jokes with other women, but this is not permitted for the wife, nor can she even cast a sidelong glance, which would be enough to cause her to be maltreated and divorced. How many things there are in nature! It is painful to see a mother with her four or five little ones abandoned to suffer hunger and despair, while the rascal of a husband with no just cause at all goes happily off with another, giving her the little that he earns and then getting rid of her at the first chance (1).

593 586 1. When the man turns out to be too lazy, it is the woman who leaves him, going off with another, and the children go with her, because

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843 262 415 Near the time of giving birth, she carries less weight, prepares what is necessary, which consists of some cloth pads and her new little olla in which to cook the maize which she must eat boiled. If the olla were old or used, the newborn [153] would be subject to mal caduco, or epilepsy, and if a woman who has just given birth were to eat parched maize, her breasts would dry up and would not give milk for feeding the child.

844 At the time of giving birth the only person left in the house is the midwife; the others, even the husband, go out, but he returns as soon as the birth has taken place, in order to lend some help to his wife and the midwife, who alone cannot attend to the newborn child and its mother, who fights with her very life against the pains, for which she is consoled at the sight of the fruit of her womb, which for a moment makes her forget her present suffering.

They at once cover with sand every trace of the event, wrap up with bands, cloths, or other things the body of the woman who has just given birth, and lay her on the ground face down, making her rest on a bed which has little or no resemblance to such, but as every Chiriguano woman is strong, she puts up with this as though she were in a featherbed.

184 846 Throughout the whole world birth is a very dangerous thing, and it is even here. The Chiriguano women also need considerable rest. When some old women were asked about the matter, they stated that childbirth formerly lasted almost two weeks, and they marvel that the neophytes get up so quickly, returning to their customary labors within eight days; they attribute this robustness to the lack of strict fasting in the years of puberty.

846 /210/ It is consequently an error to state that puerperae go to the lake or river to bathe from the second or third day, much less on the same day as the birth. Natural reason would not allow the latter. There might have been some extraordinary case in which some woman walked immediately after giving [178] birth, but it would not cease to be an extraordinary case. The neophytes are abandoning the custom of their grandmothers and

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853 262 There is no special food or more abundant food for mothers after childbirth. She who gives her breasts to her little one eats little and extremely poorly. Her ordinary food is parched maize, parched maize meal, bread made of the same, herbs, beans, gourds, other things of this nature, and rarely a little purchased beef, other meat from animals that died from sickness, lack of pasture, or snake bite, and, finally, game or chicken. In spite of this extremely bad food, milk is abundant in her breasts; the children are almost always hanging from them and sucking and never seem to dry them up, which indicates that they are excellent nursers.

648 464 853 Mestizo or white mothers who sometimes have little or no breast milk because of sickness or some accident make contracts with Chiriguano mothers, pay them well, and treat them better, but it seems that continued good and satisfactory nursing harms them, /212/ it also being prejudicial to the breast as well as to both newborn babies, the weaker child succumbing first (1).

1. Naturally the Chiriguano women refuse to be wet nurses for white children, because they abhor them. When through experience they learn of the sad consequences, communicated by others, they resist even more and only do it when force or the right of the stronger prevails.

Twins

845 [63] [65] Multiple births are rare, and those of two children are frequent. In the former case the newborn babies die very soon, and in the latter case one almost always lives, and many times 736 603 both live. When twins survive or through the death of the mother a newborn child is left an orphan, it is very easy for the grandmother to care for one twin or the orphaned child. [853] [824] Although the old woman may have reached or passed 60, she

/223/

881 raised to the ceiling. They leave her there for a period of
[785] four days in strict fasting and, of course, without her opening her mouth to speak to anybody, not even to ask for necessary things, because if she should talk or ask for anything, misfortune would appear at once.

At the end of this first test, which the maiden has scarcely felt, they lower her on the fifth day, wash her head with potash of Ñetira, and shave off the adolescent girl's hair. Meanwhile in a corner of the house far from the door, they have prepared a wall like a corner piece, made out of slender sticks a meter and 50 centimeters high more or less.
[785] Wrapped in her tipoi or clean clothing, the unfortunate girl goes there, into her pen, and begins her strict fast, which they call Yicuacu, or hiding (1).

> 1. This rigorous way of life does not seem at all strange to the maidens, because before it comes their mothers have prepared them for it, and they believe in everything with blind faith.

The girl remains in her enclosure for a week without doing anything, with face to the wall in order not to see or talk to
• [262] anybody. Her usual fare is boiled maize, Atiruru. Sometimes she also eats meat if there is any, but in very small quantities. She neither tastes nor desires other foods. Were she to eat parched maize, she would not be good at feeding her children when she has them, because her breasts would be
[271] dry all her life. Her usual beverage should be natural clear
[273] water. Were she to drink chicha, she would be barren, be-
[842] cause it contains alcohol and acridness, which would stop the effects of conception during her marriage.

881 When the week is over, the fasting continues, but less
868 harshly; her parents have obtained cotton or wool, have
867 prepared the spindle and wheel, with the little potsherd in
283 which they put a few ashes or sand so that the spindle will turn more easily. The mother hands over all this to her daughter, who begins to work and learns that she has been born for work.

/240 cont./

241 [476] [534] go to the plot, waking each other up with shouts, whistles, and by means of the Huacananti, cow's horn.

The method of planting is very simple. When the land is soft, the planter makes a small hole with his spade, using two or three blows, then pushes the spade forward, throws in two or three grains of seed and covers them. Then, without moving he makes another hole to the right, horizontal to the first, and a third to the left, performing the same operation as in the first, after which he takes a step and continues as before until he finishes. With many working, the planting of a plot is soon finished.

241 461 512 The Indian does not work beyond midday, and he tries to finish the job before leaving it in order not to return; therefore that the work sometimes lasts until two in the afternoon. Then the owner and his companions stop, return to the town, where they are awaited with plenty of food and chicha, which the former has ordered prepared, if the previous harvests were abundant (2).

[273] [262]

2. In any case, if there were a lack of chicha, because of previous scarcity, and mead made from algarrobas, the housewife should still wait for the planters with food mixed with some meat and plenty of chili peppers.

241 476 They formerly continued in this fashion until the planting of a tribe was completed; one day on one's own plot and another on that of a companion, and even the cacique did the same; today this is difficult to manage, because now they are not so close. Nevertheless, in times of scarcity, if someone prepares chicha for those who may wish to help him in planting or weeding, they leave or refuse money for a few matés or /241/ glasses of this much desired liquor. Even the whites get peons more easily this way.

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Modern Farming and Seeds

241 177 [407] Today planting with the spade is disappearing, and if this tool is necessary for weeding, an iron one has been substituted. The plow has become general, as have the yoke and oxen, and in the missions even boys of 12 break in oxen two and a half years old. They first do the planting for the mission, then for themselves and their fathers, and finally they help those who have no sons: the missionary provides them with young oxen, plowshares, and even halters when they are very poor.

The neophytes in most of the Potosí missions have learned to perfection this new method of farming, and they are so advanced that they are competitive with and even superior to [868] many mestizo farmers. The older ones teach the younger [409] ones, fathers teach their sons, and the latter as well as the former manufacture plow and yoke out of selected wood with [231] all the perfection that these implements require. It is satisfying to see upon a farm 40 or 50 yokes of oxen, directed and driven by young men and boys who yesterday were like 46 their grandparents! The whites themselves do their planting on a large scale, aided by these Chiriguano, who receive in exchange double daily wages (1).

> 1. A peon plowman is not obliged to bring oxen; it is the white who waits for him with the yoke hitched. If a peon brings his own, he earns up to triple daily wages, because they are worth exactly three strong peons, the two oxen and the man who drives them. Thus it is not much to pay him triple.

243 262 Today it seems to me that there must not be another country where the different types of maize thrive better. This is the principal element, the daily food, not only of the Chiriguano tribe, but of all those who inhabit most of Bolivia. Here in particular, when there is no harvest, its lack is greatly felt by whites and blacks, that is to say, by mestizos and by Chiriguano.

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The seventh type has no peculiarity. It is called Cachinchi, which in the language means curly, and it actually is: the kernel is rather small at the end, but not at the beginning, and in the middle it is very soft; it contains considerable saccharine, and they use it for parched maize. They also have the Abati guayeta, then the Abati chore, which they use for parched meal, and finally they have the Saimpini, gray, very good for parched maize because of its softness (2).

[177] 2. It appears that formerly these Indians did not have the Abati guayeta. It is very probable that it was introduced after the Conquest, or as soon as they had any relations with the whites.

● 262 Maize is a very common food for the Chiriguano Indian, and he eats it in different ways, but in times of plenty one tires of eating the same thing, like the Hebrews, who in the desert had become tired of eating manna. They remedy this difficulty with the Intina, side dishes /compañage.

The first, Abati tina, is the Cumanda, French bean /alubia/: there are also 11 type: of French beans, or [263] cumanda. All are eaten with salt or without /263/ it, with maize meal, with parched maize, or without them. Here they are: Cumanda háigüe, bean with a yellow kernel: Cumanda sacuayu, which literally means bean with yellow eye: Cumanda úú, black bean: Cumanda güiraya, which literally means bean owner of the trees, because it is a climber: Cumandandi, white bean: Cumanda pucu, long bean with red kernel: Cumanda mi, small bean. This one is not small because of its grain, but because of the plant, and it is the one that the whites call yellow poroto: Cumandanni, sour bean: Cumanda guasu, large bean, it is because the plant is very thick. There is another called Güira rupía because it resembles birds' eggs, and, finally, there is Saimpino, which is similar to the gray egg-colored maize (1).

244 1. The Cumanda guasu, or large bean, is the

/343 cont./

one preferred by the Chiriguano, and he has good reason, as it is quite edible, the least damaging to health, in addition to being the seed which is most resistant to drought. It is very abundant, and as many as four harvests can be taken from it.

The Chiriguano plants whatever type of beans /judías/ he has or can obtain from his neighbors or companions when he runs short, because only in the case of maize, which he prefers to eat parched and not boiled, does he plant several varieties. All beans /alubia/ are good to the Indian because of the use that he makes of them, which is to boil them and eat them, to roast them under hot ashes with their pods, or, by making a hole in the ground, to heat it and burying the pods there so that they will cook.

If the Chiriguano frequently lacks beans to mix with the maize, it is unlikely that he will be without gourds, which grow with little cultivation and which are so resistant to drought; it is also extremely easy for him to plant this food, so much so that women and children devote themselves to it, because not many plants are needed in a plot for an abundant harvest.

Twelve classes of gourds are known, but only five are edible; the other seven are used for matés. The edible ones are the following: Andai, Gũindaca guasu, Gũindaca mi, Gũindaca mi guasu, yiquisigua; the latter has an edible interior and the exterior is useful for domestic purposes, to keep any object in its hard shell. The gourds that serve for matés are Iá, true maté; Iá pua, round maté; Iámpe, flattened maté; /344/ Iá guasu, large maté; Iá-rai, small maté, Iá puca, long maté, and Iá pani, twisted maté (1).

1. The Indian does not include in the number of gourds the one the two children used to free themselves from the deluge of water because it was a miraculous one.

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252 262 Gourds are eaten boiled, roasted, and in broth; the seed is enjoyed when roasted with maize meal, parched maize, or beans. They also eat them as broth, which they call Gũindaca mi quira, or grease of the gourd, to which they add chili pepper and salt, just as they do with beans cooked in ollas with the whole pod, which they call Sopirigua.

241 If the Chiriguano manages to plant a little maize beans /poroto/, and gourds, he is content and stops planting other, less important seeds. Few plant Yeti, sweet potato, Mandiporopi, mandioca, Tacuanée, sugar cane, and Monduvi, peanut. They all plant watermelons and other melons; many plant figs and tunas, or nopal, and few cultivate orange trees, because this Indian has little patience for waiting on the ingratitude of certain plants which require much care and are very slow in yielding fruit (2).

[192] [177] 2. Names for watermelon /sandía/ and melon /melón/ do not exist in the Chiriguano language, which indicates that these fruits were introduced by the whites, from whom the Indians got them.

222 245 262 The nopal is very abundant in this area, rising to some three or four meters; its fruit is very exquisite, as everyone knows. Its cultivation is nil; it is enough to pluck off a branch of the main plant and bury it halfway, and its sweet fruit will ripen from the second year on. It is the plant that the Chiriguano value most.

245 Even the fig tree, which also needs little care, is cultivated. They call it Iva, as well as calling the nopal Saini, and both plants seem to be native, because they grow in hot places, and the name indicates that they have always had them. The fig tree requires more cultivation than the nopal, but this is relatively insignificant; they pull off a branch, plant it during the rainy season, and let it grow fully without pulling off any shoots (3).

439 3. Whites who live among the Indians are

/244 cont./

439 occupied in other, more lucrative trades; they rarely plant fig trees and nopal, and this benefits the Chiriguano, who sells both fruits, receiving money, meat, or charqui from the white man.

241 When any of this planting is done, all the desire of the Chiriguano is that it yield; he fervently beseeches the favor of heaven, /245/ or the sorcerers, masters or the rain, that there may not be a lack of the necessary moisture, and he, with his own hands, sees to it that the planting is quite free of all weeds.

Use of the Ripe Produce

262 252 If the weather is favorable and the Indian has taken care of the planting, the reward of his little bit of sweat will not make him wait long. In exactly three months, or even before, he can already begin to savor Abatíqui, tender maize, which the mestizos call choclo. The first of these ears are eaten roasted and almost never boiled, because they say that prepared in the latter fashion they are tasteless. They go on to say that roasted choclo must be cooked only a little in order not to lose its ability to fatten, and if it is roasted under ashes with the whole husk, it is almost as sweet as sugar. How well, dear reader, do my Indians know what is good for the body, and how they know the way to get fat and what is most pleasing to the palate! They are good gourmets despite their poverty! It seems that they belong to the abdominals described by Father Saj.

When the choclo is somewhat more mature, they eat it with more pleasure, and then they also very nicely prepare Simbícuai, humitas/small cakes made of tender maize and sugar/. The method is very simple: instead of a knife or spoon to pull off the kernels, the young Chiriguano girl or old woman, pretty or ugly, with good teeth or bad ones, uses these instead of a mortar and pestle to grind it; it is done with the teeth very

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262 clean, and, of course, in view of the chewing the choclo turns out well seasoned with the clean, white saliva of the old or young women. Then they wrap up the chewed matter in green husks, tie it up, put it under the ashes, and, when it is cooked, they eat it as if it were a very delicate victual, and let it be noted that if the Chiriguano humita were not made thus, it would turn out tasteless for lack of sauce and salt, which things they make up for by means of the above-mentioned procedure (1).

1. The whites here and elsewhere make humitas, grinding up choclo in a mortar and mixing in cheese, curds, meat, and other ingredients; but the Indian follows his old way without adding anything other than saliva to it.

The season of fresh maize lasts some three months, because the Chiriguano, accustomed to heavy food, eats it as fresh even when it is very ripe. When the choclo season ends, the woman gathers a few ears of abatindi or /246/ saimpino, husks them, sits down near the fire, where she has put her potsherd or clay vessel, and she tosses the maize there to parch, stirring it with a little stick or with the cob of the maize itself, being careful not to overcook it, so that it may not lose its substance. They eat very little boiled maize. Atirure, and even the parched corn, Atipĩ, must be accompanied by its Intina, side dish, which should be something unusual (1).

1. For their side dishes they make use of beans, gourds, meat, fish, empanizado, large leaf ants, cicadas, lizards, worms, melted tallow, honey, gourd leaves, wild herbs such as the Mandiõ, and locusts, whose appearance sometimes makes him happy because now he has it for his roasted maize.

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It is not likely that in times of abundance the Indian will resign himself to always eating maize in the same fashion, both because he becomes tired of it and because there are also old people who are toothless and cannot eat parched maize very well. To avoid both things, the Chiriguano mind has found various ways to prepare maize dishes, in addition to those already noted. He savors with satisfaction Aticúi, meal: to make it, the Indian woman, after having been huddled for a long time near the fire, takes her pestle, tosses a quantity of parched maize into the mortar and grinds: then she sifts the ground maize in a fine palm sieve and grinds it all up again, so that the aticúi, which the whites call pito, may be palatable enough.

As easily as she prepares aticúi, she also makes Muiori, which is the seventh way of eating maize. For this she puts a small number of kernels in water and lets them soak overnight: in the morning she takes them out and puts them in a sieve so that all the water may run off. She then proceeds to grind them little by little and once finished, sifts it and parches it as she did the meal. From the remains from grinding the muiori, called Abaticuru, named arrocillo by the whites, she prepares Achi. To make it, she grinds the arrocillo again, puts salt and chili pepper in the meal, and parches it.

The ninth way of using maize is a little more complicated. It is frequent, but not usual. It is called Muiorimimo. To make it, kernels are steeped and ground early in the morning and then sifted in a fine sieve: next one prepares a plate which has small holes for the purpose, and the ground meal, which is covered with bran, is put on it: finally, the plate is put on an olla of boiling water, its edges sealed with /247/ a paste of ashes so that the steam may not escape, and then it is left to cook by steaming (1).

1. To see if it is ready, she taps on the bran with her fingers, and, if it sounds like cooked bread, it is a sign that it is time to remove it from the olla, throw away the bran, eat what is wanted, and save the rest.

4s Mss--335 M-3 (1890-1911) 1912 SF10 Chiriguano SF10

/767 cont./

252 262 Infrequently the Indian drinks a broth of ground maize. Napi: when he does not have meat, he uses beans and gourds for his broth. If he does not have these either, he prefers Cagüi rai, which he prepares by soaking and grinding the maize, removing the bran, and cooking it. They also chew it sometimes, let it ferment, and eat it when it is ready: anyone who sees this last food could not help but be disgusted, but for them it is a very excellent dish.

[263] The twelfth and last way of eating maize is Mayape-bread. The preparation is the same as that of the Hebrews when they eat unleavened bread, but the Chiriguano put salt and chili pepper in it: after it is kneaded, they cover it with ashes and live and let it cook well: when it is done, they take it out, wash it with water until the ashes which have stuck to it are gone, and, well washed, it has the color of bread, which invites both big and small to savor it: it is what the Indian likes best, and the women make it frequently in times of plenty. Its odor and taste are very pleasant, especially when just made.

273 ## Cagüi — Chicha

All the ability of a wife consists of knowing how to make chicha well, the delicious cagüi of the Chiriguano, who is capable of walking a hundred kilometers or more to drink it, when invited with all the rules of native diplomacy. Cagüi is his coffee, his soup, his wine, his food, his drink, his everything. In a certain way it is his God, and I am sure that many would renounce heaven for chicha, because they know almost nothing of what heaven is, and, on the other hand, they know that chicha is a sweet thing which gladdens the heart and leads to conversation and singing: therefore, every Chiriguano woman must take special care from even before puberty to learn well the method of preparing it. Here it is (2).

[77] 2. The method of making the chicha which the whites call arrope is somewhat different, but the Chiriguano Indians do not use it and learned of it only recently.

/249 cont./

Hunters

224 So that there may be plenty of food at the public drinking, the men, as soon as they have finished the job of bringing in firewood, take their bows and arrows, and horses if they have any, and go hunting. The places are suitable for the purpose: some hunt Taitetu, wild boars; others pursue the Yandu, ostrich; many go in search of Picasuguasu, large pigeons, Yeruti, turtledoves, Picúi, little doves. They also hunt: Guasu, /250/ pygmy deer; Sariama, chuñas /cranes/; Ayuru, parrots; and Tatu, quiriquinchos /armadillos/ (1).

• [262] 1. The armadillos are of several types; the meat of the Taturapúa, balled armadillo, is not good, because it feeds on carcasses; the meat of the rest is better than that of the pig /chancho/; it is not harmful like that of the latter.

[251] The hunters take some 15 or 20 days to return, but as they take game, they cut it open, clean it, and dry it in the sun, so that it will not spoil, because they do not carry salt, since they do not have it, for making jerky or charqui.

224 231 Almost all the Chiriguano are hunters, and the infinite number of dogs that they keep in their houses have the ability to pursue the wild boar, the quiriquincho /armadillo/, the ostrich, the chuña /crane/, or the pygmy deer. These dogs are almost like Old World wolves, with pointed ears and a curled tail; they are so skinny they look like harps, so bad with mestizos and whites that it seems that they have learned to hate them as their owners do, and they are so attached to the latter that they never leave their side. They go with them everywhere; it is not unusual to see an Indian who is going to the field followed or preceded by eight or ten dogs, who are falling down from being so thin, and yet, should they flush a pygmy deer or a chuña, they will not let it get away. To walk alone at night through a Chiriguano town is to expose oneself to being eaten alive by these hungry tigers who all gather when the first one barks.

/252 cont./

262 As very savory food there are also cicadas, ants, lizards, locusts, and some green worms which cause disgust just to name them. If a head of cattle dies and putrefaction has begun, the Chiriguano finds it excellent; give it to him and it is a grand gift, and that day is a carnival for him; he does not try to find out whether the animal died from the poison of a viper or rattlesnake or from rabies (1).

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1. When Indians bring home the meat of dead cattle well into a state of putrefaction, they boil it in ollas and throw away the liquid, and in this way it loses much of its bad smell.

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178 I do not know whether it is through superstition or because they are descendants of the Jews that this tribe formerly did not eat the flesh of the pig; although they like and hunt the wild boar or the peccary, they did not touch the domestic pig, but today almost all of them, with the exception of some women, eat it.

261
262 The Chiriguano suffers in times of hunger or scarcity of food, but he looks for food in the earth; this is very harmful food, which produces various ailments, such as consumption and
[252] dysentery. He looks for the potato of the serpentine arum, ex-
[164] tracts it, and, making a hole, heats it, throws the potatoes there, and covers it with ashes and embers, leaving them overnight; on the following day he and his family eat, but it gives them a bad stomach-ache, which makes them throw themselves down with their bellies to the ground until the pain abates; the same potato, raw, is efficaceous for killing worms in the galls of animals.

[222] Another food in times of scarcity is the Caraguata; this
[252] is a kind of aloe with leaves without the oily liquid; the edible part is the roots, which have a flavor like mandioca; it is considerable work to pull them out of the ground, where they are firmly attached, and the mealy substance is /253/ little enough; to eat it, it is roasted in the coals or under the ashes. When it is the time for fruits and want threatens, the Chiriguano

/253 cont./

261 feed themselves with: algarroba pods, Hibope; chañar /a legume/,
262 Cumbaru; mistol /a fruit/, Yua; tusca, Hibopene; sour algarrobos, Hibope tayi; nopal fruits, Saini; or from the fig, iva; the higuerilla /little fig/, Caicantina, the thistle /cardo/, Tapiacaru, and the ulala /a kind of cactus/, Ñancagüína (1).

[139] [132]

1. The fruits mentioned and many others are plentiful in the whole area, but in the Ivu region they are more plentiful; the years have now greatly changed; it does not rain as regularly as in times past and the crops are somewhat certain only at the foot of the mountain ranges.

181 Indubitably the Chiriguano, although superior to other nomadic tribes that surround them or border them, are very unfortunate and poor, but, on the other hand, their life is peaceful, they bother no one, and they do not wish to be bothered. When the Chiriguano Indian has food, he is the happiest being on earth; his savage bliss can today be envied by all the rulers and great of the world who live without knowing whether or not they will wake up on the morrow, in view of being surrounded by so many anarchistic dangers, so many bombs and dynamite that the obscure sects make explode, so many excesses that occur and are reported in the newspapers, and so many deaths that are taking place. Oh, this kind of savagery has not penetrated among these savages! That is why they sleep peacefully without fear, in the town, in the countryside, and in the forest, and they are happier than others; those who seek bliss on this earth may well envy these Indians.

/284 cont./

000 The philosopher Foción said that he who has the fewest desires to satisfy is the happiest man on earth. This is a truth based on experience, but it is not true happiness; it is part of it, because complete happiness is not attained here.

The true Chiriguano dressed in the old way and his wife with her tipoy must have been the happiest beings on earth, but as they are children of the first man, they also inherited affliction, pain, and death. These three things are almost always the consequence of illness, and they come from the intemperate life that I have described, just as they also come from the drinking and eating.

515 751 The Chiriguano takes no care of his person, although he loves life, which he would like to be eternal, however much he may walk dragging himself along. His foodstuffs are not at all [262] hygienic; he eats /illustration appears here/ /285/ often and with [252] too much greed rotten meat, vegetables, and maize itself, which [271] he parches but never cooks completely. The water he drinks is not [273] always clear or free of microbes and small worms that are visible; the very chicha that is manufactured with such elaborate effort and care is drunk still sour, and, finally, shelter is unimportant. In periods of great heat he lies on the ground, taking on his back the burning rays of the sun; he protects himself little in the abrupt changes of temperature, and if he gets wet in the rain or has taken a voluntary bath of cold water or water heated by the sun, he lets his clothes dry on his body; from these come the illnesses that I shall presently enumerate, illnesses that he suffers from, which make him unhappy and then carry him to the grave.

753 821 The rainbow that God gave to Noah as a sign that He would not flood humanity again with the waters of a new deluge is a sad sign for the Chiriguano. If this so natural phenomenon appears in a town and begins in front of or over a house, when it disappears it does not end or turn to nothing but hides itself in the belly of one of the residents, who in time will get sick and die of dropsy, from which it follows that this illness, which is rare among them, is caused by the rainbow (1).

1. Another natural phenomenon is the whirlwind,

[TEXT Continues on p. 385]

/285 cont./

753 821 which rises continually to the sky in these interminable plains, taking behind it all of the trash that it finds along its way. It is called Cusumino, and, according to them, it causes pains in the feet, knees, and bones. When a whirlwind begins in a town, they try to cut it with a knife.

Illnesses and Remedies

164 The most common illnesses among the Chiriguano are the intermittent fevers that are endemic, tuberculosis or consumption, eye disease, convulsive coughing, diarrhea, dysentery, mange or itch, and tumors accompanied by a kind of leprosy that covers a large part of the body. The intermittent fevers appear at the time of the first rains and continue until the time of the fruits and fresh maize. These fevers are not fatal, but one who is attacked by them has a rather afflicted life. Their remedies are vegetal; 757 they boil quebracho or algarroba bark, and they drink this water, but it does not always have a salutary effect. /286/ If a small dose of quinine is administered during the intermittent fevers, they immediately get well (1).

1. They get well with a small dosage, perhaps because their bodies are not accustomed to the remedies of the apothecary. Another efficacious remedy for the intermittent fevers is bitter coffee or coffee with a little sugar.

164 The itch, tumors, and leprosy do not cause death. 262 263 Chiriguano food is almost always saltless. They are not careful in selecting it, and stinking meat does not disgust them. Their 751 water is not always clear; they bathe at any hour and, after bathing, 515 do not dry their bodies. If it rains, they let the wet clothing dry 000 on their person. From this and other causes come the many skin

5:Nordenskiöld E-5,4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8
South American Indians S3

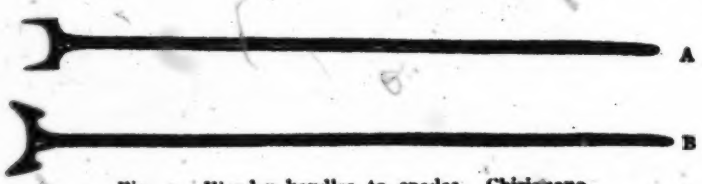

Fig. 5. Wooden handles to spades. Chiriguano.
1/18. A = Private collection. B = R. M. E. 680.

III.

Tillage and tillage implements.

Vegetable food is of great importance to the majority of Indians. This is most specially so with the Chiriguano and Chané. To the former, as well as to those of the latter tribe who dwell on the Rio Itiyuro, maize is of extraordinary importance. The Chiriguano and Chané belong to WISSLER's »maize-area» or »area of intensive agriculture». WISSLER divides S. America into three great food areas: area of intensive agriculture, manioc area, and guanaco area. Another division would be more correct, viz. —

1) Area of intensive agriculture.
2) Area of manioc and fishing.
3) Area of wild seeds and fishing. El Gran Chaco.
4) Guanaco area.

There will, of course, be in addition a number of small areas with special conditions of life, as in the extreme south of S. America.

The Chiriguano grow 11 kinds of maize[1]), 11 varieties of beans[1]), 12 kinds of calabashes[1]), of which 5 are edible, sweet potates, mandioca, sugar-cane, mani, urucu, tobacco,

[1]) According to NINO Pp. 241 ....

5:Nordenskiöld E-5)(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8

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241 water-melons, melons, figs, tuna[1]), oranges, cotton, millet, and reeds for arrow-shafts.

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[245] Bananas are not cultivated. Among the Chané at the Rio Parapiti the sweet-potato is the most important cultivated plant. Of the plants mentioned, the sugar-cane, the melon, the watermelon, the fig, the orange and the millet are not American. All those cultivated plants which have been introduced by Europeans are of slight importance to the Indians. I have never seen mandioca cultivated, but I have heard that it is to be met with in the fields of these Indians. As a staple food of the people it is of no importance here.

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177 Iron spades bought from the Whites are the tools employed nowadays. Very occasionally one still sees wooden spades. In Part I I have published a map of the geographical distribution of the spade.

The spade in S. America is evidently a western element of culture, i. e. the idea of fitting on a more or less broad blade to the lower part of the digging-stick is plainly derived from the western area of civilization.

Whence the Chiriguano got the idea of the shapely handles I do not know. They are too shapely for the art to have been derived from the Whites. They have obviously a long evolution behind them, and it is very probable that they had their origin in the Mountain area of civilization.

Hoes with iron blades occur. The Indians have got them from the Whites. I have not seen any primitive hoes, although we are here on the border of the area of distribution of the genuine American hoe[2]).

The Chiriguano and Chané use a small implement for removing the corn from the corn-cobs which I have described in Part I. P. 32.

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1) OPUNTIA.

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[114] 2) It is incorrect to affirm, as WISSLER does, (P. 27) that the hoe was unknown in S. America. Incas had hoes and they are found still among the Quichua.

5:Nordenskiöld E-5,4(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

plenty of fish in the Pilcomayo, there is a great trade in dried fish in that part of the country. The Indians tramp long distances in order to fish or get fish by barter.[1]) In places where the fish are so small that they rarely exceed the length of a finger, as in Rio Itiyuro, the fishing, done by women and children, still forms no small part of the diet of the people[2]). It is not surprising that the Chiriguano and Chané are eager fishermen, for no doubt both tribes come from well-watered tracts of the country where fish is abundant.

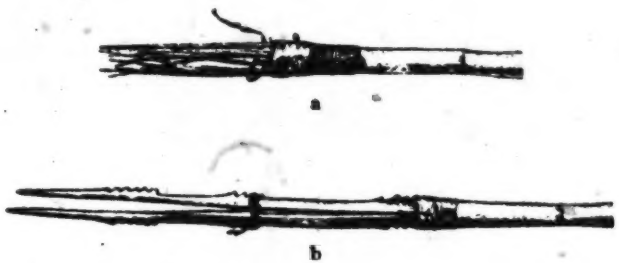

Fig. 15. Points of arrows for fishing. Chiriguano.
a = R. M. E. 618. 1/4; b = R. M. E. 627. 1/4

[1]) Padre BERNARDINO DE NINO says, P. 251: »Del pescado es muy deseoso, mas no todas las tribus lo tienen cerca, éstas, cuando saben que en las orillas de los grandes rios hay en abundancia, caminan hasta ciento cincuenta kilómetros para hacer el cambalache: llevan maiz ó harina y la cambian por pescado.«

[2]) This is where they got their very clean habits and their eagerness to bath every day.

/160 cont./

The region settled by the Chiriguano and Chané Indians is really very extensive. It is varied in nature, from luxuriant virgin forests to extremely arid valleys and plains poor in vegetation. It is in part very mountainous, but the Chiriguano and Chané are not mountain people. They stay down in the valleys and do not climb up to the peaks and plateaus, like the Quichua Indians.

Animal life in these regions is poor, in fact, very poor. A hunting people could never live there. Now and then a roebuck, a wild pig, a few ostriches, that is all one sees in the way of big game. Bird life, too, is very poor. /161/ The number of lakes is very small, and they are no larger than what we would call pools in Europe. On the Rio Parapiti one sees quite a large number of white egrets (1), famous for

1. Ardea.

their valuable feathers. With regard to wood fowl, only the chicken called "pavas" (2) contributes to the diet. Occasionally

2. Penelope.

one sees a large-billed "toucan" (3). Sleek pigeons, fattened

3. Rhamphastus.

on maize, often live in masses in the fields of the Indians. In the Rio Pilcomayo there is a great abundance of fish; in the little rivers the fish are small and poor. The Indians who live in these regions have to be farmers, and they are maize farmers to the highest degree. For them maize is food, drink, pleasure, everything!

I have no adventures to report from among these Indians. Everyone may travel unharmed among them. The greatest sorrow of the ethnographer is that he is unable to collect all the interesting and old things that he sees there. One cannot take everything home.

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/187 cont./
the Chiriguano and Chané have fewer horses, cows, donkeys, sheep, and goats than the Choroti and Ashluslay. On the other hand, they have more chickens and pigs. Sometimes one sees ducks, guinea fowl, and turkeys. In certain regions, as, for example, in the Caipipendi valley, where the Indians are wealthy, they also have much livestock. The whites, unfortunately, try in every way to cheat them out of what they have. Thus, it is not uncommon for a white man or a white woman to come into a village with a few kegs of spirits and to leave it with a couple of the best cows of the Indians. The whites are richer, the Indians poorer.

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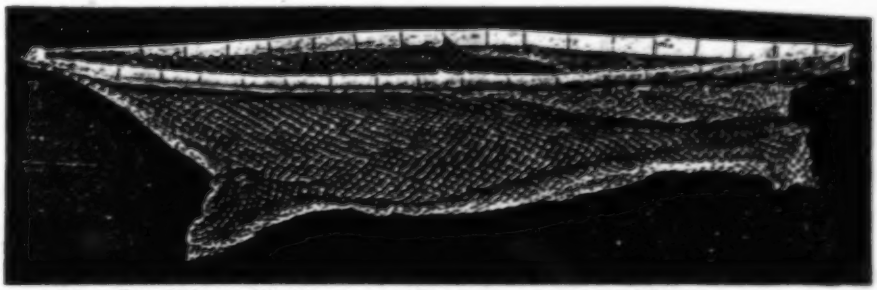

Fig. 91. Net. Chiriguano. Rio Parapiti. Ca. 1/12.

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The menagerie of tamed wild animals which one sees in the villages of the more primitive Indians is not to be found among /188/ these Indians. A parrot that talks a little Guarani, however, is not unusual in the huts.

Preparation of Food

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The dirt that we come across in the preparation of food and eating among the Choroti and Ashluslay is not found /Fig. 92a appears here/ among the Chané and Chiriguano. On the other hand, the dishes are terribly monotonous. They consist of maize in every possible form, cooked maize, roasted maize, maize bread baked in ashes, maize flour porridge, and /189/ steamed maize flour. The latter is prepared in an apparatus illustrated here (Fig. 92).

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6: Nordenskiöld--59 E-5 (1908-1909) 1912 SF10 Chiriguano SF10
Chane SF8

Chapter Twelve

On the Life of the Chané and Chiriguano Indians (Continuation)

From the Womb to the Grave

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The Chané and Chiriguano women work hard even during pregnancy, until they are to give birth. In Vocapoy's village there was a pregnant woman to whom I gave a pigeon that I shot. Vocapoy thereupon told me in great excitement that a pregnant woman must not eat pigeons. When a Chané or Chiriguano child comes into the world, it undoubtedly does not cause its mother much pain. These women are healthy and give birth easily, as do all Indian women who lead a healthy life and have never worn tight-fitting clothing. They also do not lie in childbed; instead, that must be done by the papa of the little one. Here, too, we come across this strange custom, the "couvade," which is known from so many Indian tribes. The husband is supposed to lie down for several days and observe a diet. Among the Chané on the Rio Parapiti he is permitted to eat only cooked maize and maize soup during the first few days, and later sweet potatoes as well. For several days he may not eat meat. For example, if he eats the meat of a goat, he will die, bleating as it does. The Chiriguano Indian Taco told me that he got his fat stomach because he did not observe this important custom. "I should have lain for five days and stayed on a diet," he said.

The custom of the couvade, as is well known, is very widespread in South America. Among the tribes with whom I am familiar it definitely occurs, aside from the /207/ Chiriguano and Chané, among the Choroti, Gûarayû, and Chacobo. K. v.d. Steinen (1), who describes this custom in detail from the Rio Xingu,

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1. Karl v. d. Steinen: Unter den Naturvölkern Zentralbrasiliens /Among the Primitive Peoples of Central Brazil/. Berlin, 1894.

/210 cont./

When a girl has her first menstruation, she is put in a compartment in the hut, a sort of closet. Her hair is cut short, and she may not come out until it has grown medium long again. Accompanied by her mother she may go out and attend to her needs, for example, bathe, etc. Between the first and second menstruation she must stay on a diet. She may eat cooked maize and meal. The Chané call this custom "yimundia."

In a Chané village, Aguarâti, I saw a girl who was sitting in such a closet. She was spinning. I peered into the closet, which was probably wrong of me, for on the next day girl and closet had disappeared.

P. Chomé (1) already mentions this custom in connection with the Chiriguano. He says the Indians believe a snake has bitten the girl.

When the girl emerges from this imprisonment, she is marriageable.

/211/ When the Chané boy is about 10-12 years old, his lower lip is pierced by a man particularly experienced in this. A small piece of wood is stuck in the hole. The boy must lie down for a day. His grandfather comes and tears deep wounds in his body, so that he will become brave in battle and a capable hunter. In the morning, when it is still quite cold, he takes him to bathe, so that he will become a proper man.

For one day the father may not consume anything, so that the boy will not become loquacious. This shows that the Indians do not like prattlers.

When the boy grows older, he receives in place of the small piece of wood a larger one, and when he becomes a man he may parade around with a large plug, "tembeta," in his lower lip (Fig. 79). This is supposed to be of wood in which pieces of turquoise and chrysocolla are set. Among the Chané and most of the Chiriguano only the old men now have the tembeta.

1. P. Chomé, p. 320. The same priest also speaks of the custom of the couvade among these Indians, p. 321. Lettres édifiantes /Edifying Letters/. Vol. XXIV.

Ce 343 182 171 231 /18 cont./ Their Purpose
today among the Chiriguano and Chané, as well as among the Matako and Churupí, is primarily to protect certain provisions against the numerous dogs and other domestic animals who are around in great number in every part of the town (74).

74. Concerning the question of the purpose of houses built upon posts with respect to damage by animals, cf. v. Rosen, op. cit., pp. 192-198.

Ce Ce 433 224 226 Food and Drink. Manner of Eating and Drinking.

Hunting and fishing are not very important in the economy of the Chiriguano and Chané. Their territory has relatively few edible animals, and they are not very brave hunters (75).

75. Nord. 2, p. XVI.

Ce Ce 224 262 Of animals that can be hunted, they eat the puma and the jaguar, while they scorn vultures, foxes, and the meat of monkeys, so craved by other Indians (76). One contribution

76. Nord. 1, p. 190.

Ce Ce 226 184 to their subsistence which is worth mentioning is that from fishing, but only for the Chiriguano and Chané who live near the upper Pilcomayo River, since that river has excellent fishing. These Indians cannot make much use of fishing in the Rio Grande, because today this river can be held to be almost the frontier of their territory. The Parapití River has many fish, but they are very small. While the Chané today live in territories where for several months some fish are available, many Chiriguano towns are so far from the larger streams that fish does not enter into the diet of their inhabitants (77). With

77. Nord. 2, pp. XV and XVI.

231 /18 cont./ With
262 respect to the eating of meat, the Chiriguano depend on their livestock, which, however, according to Nordenskiöld, since they omit the raising of pigs and chickens, is not so numerous as the livestock of the Chorote and the Churupí. They do not
262 241 eat the flesh of asses, horses, /19/ and dogs (78). Although

78. Nord. 1, p. 190.

we do not have exact data on the amount of meat that their livestock yields, we can suppose that it is not very great, and thus these Indians depend principally on vegetable foods, that is, on the products of their agriculture. We should say that, in comparison with maize, all other foodstuffs have almost no importance, except among the Indians of the Parapití, among whom the sweet potato is the most important food (79).

79. Nord. 1, p. 181.

261 In times of shortage they eat various wild plants, principally
273 the sweet pods of the algarroba (November-December), which, coarsely chopped up with water, they allow to ferment in order to produce a kind of chicha which has inebriating qualities (80).

80. Nord. 1, p. 236. Métraux I, pp. 361 and 362.

262 Since meals consist principally of maize, they are very
252 monotonous, although the maize is eaten by them in many different forms, either boiled or parched, or as a flour cooked in steam, as a fried maize-cake, in embers /rescoldo/, or as a soft maize-pudding (81). Meat is eaten roasted or boiled,

81. Nord. 1, pp. 188 and 189. Métraux I, pp. 356-358.

263 together with maize. Cooking salt is used at meals. While
317 previously salt (dyúki) was obtained from mines or extracted
439 from earth from salt licks /barreros/, today it is obtained

St Schmidt--149 E-5 (1935) 1938 SF10 Chiriguano SF10
Chané SF8

/57/

Grinding the Raw Materials

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For grinding raw materials, principally for grinding corn, the Chiriguano and Chané use large wooden mortars with long pestles (255). Such a wooden mortar is shown in Figure 15 and

255. Nord. 1. p. 51. Métraux I. p. 365. Fig. 30.

C Ce 412 [191]

another one by Nordenskiöld (256). Stone mills are not used by

256. Nord. 1. Fig. 116.

these Indians, although this implement was used, except for the Chaco tribes, by all the tribes whom the Chiriguano had as neighbors after their migration to the west. According to Métraux, a C [515] [388] small stone mill is used only for grinding the seeds of a plant which the Chiriguano use as soap for washing their hair. Such a stone mill is shown in a drawing by Métraux (257).

257. Métraux I. p. 467. Fig. 122.

C 412 191 174

Because the wooden mortar is common even today among the Kainguá /Caingua/, who also belong to the Guaraní linguistic group, and is also mentioned for the ancient Tupinambá /Tupinamba/ of the eastern coast of Brazil, we can assume that the Chiriguano brought this cultural possession from their native land.

C 252 412 [191]

The fact that mandioca is not important in the economy of these Indians explains why they do not use the wooden grater, the application of which is diffused among so many other Indian tribes of South America who cultivate this nourishing root.

Making Cord and Thread

C Ce 283

The thread that the Chiriguano and Chané make out of wool or cotton is spun by means of the spindle, while that made of caraguata is twisted by hand. We have no information on the way this caraguata thread is twisted.

/87 cont./

C 88 [302] The girl is nubile when, after the first menstruation, she has undergone a certain ceremony, which lasts until her hair, cut short, has grown out again to medium length. This ceremony of the girls, which is called "yimundia," consists of her being put in a kind of separate room inside the house. Until the following menstruation, she must stay on a diet and she must not eat anything but cooked maize and meal (339). Only in the

C [262]

339. Métraux I, p. 320, note 3.

company of her mother may she temporarily leave the separate room to bathe and to take care of her other needs (340).

340. Nord. 1, p. 210.

C 88 304 We also learn from Nordenskiöld that the Chané boys from 10 to 12 years of age must also undergo certain ceremonies, which consist in having a man who is particularly expert in such matters pierce the lower lip (341) and put a small stick through the hole,

C [113] [239]

341. According to Métraux I, pp. 346 and 347 and Fig. 12, the Chiriguano formerly used for that purpose punches made of horn.

and his grandfather puts deep wounds in his body so that he may be valiant in battle and in hunting and takes him out in the morning, when it is cold, to bathe (342).

342. Nord. 1, p. 211.

C 88 [248] Chiriguano and Chané girls are watched over by their mothers /88/ until their marriage (343), and illegitimate children are

343. Nord. 1, p. 178.